



PICTURE  
NATURAL HISTORY





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PICTURE  
NATURAL HISTORY

WITH ABOUT  
FOUR HUNDRED ILLUSTRATIONS

THE TEXT BY  
MARY E. C. BOUTELL

EDITED, WITH AN INTRODUCTION, BY HER FATHER, THE REV. CHARLES BOUTELL, M.A.,  
AUTHOR OF "ENGLISH HERALDRY," "ARMS AND ARMOUR," ETC

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THOMPSON & THOMAS,  
CHICAGO, ILL.

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## INTRODUCTION.

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IN England a book that is called a "Natural History" is generally a book about every kind of living creature, but without noticing anything else; and yet, of course, the words *Natural History* really mean the history of all Nature's works, both those which have not animal life and those which have. So, if we suppose that Nature herself were to write her own history—and a very delightful Natural History *that* certainly would be—we should expect to find in her book a charming account of trees, and plants, and flowers, as well as of beasts, and birds, and fishes, and insects, and, indeed, a great many other things besides.

This little book, which calls itself a *Natural History*, without attempting to describe all Nature's works, does contain more than is usual in such books when they are written in English. This book has followed the example of foreign books of the same kind, which delight to bring together within one volume descriptions of those two great divisions of created things, one of which has life as animals have life, while the other has life as vegetables have it. This Natural History, then, is a History of Life. It does not, indeed, say anything about the highest and most perfect life that is known upon the earth, which is Human Life; but it contains accounts of lives, first of the different kinds of animals, and then of the different kinds of vegetables; so that here, in a single volume, are placed together what may be called two chapters taken from Nature's great Book of Life. In each of these two chapters, one of them on animal life, and the other on vegetable life, Nature would have had a great deal more to say than has here been said, and she would have used much wiser words. We, however, have been content at this time to write what we hope may lead on youthful readers, as they grow older,



to inquire for larger and more learned books, such as may tell them the very many things that we have not attempted now.

The contents of this book are divided into ZOOLOGY and BOTANY. *Zoology* includes all living creatures, whether they live on the land, or in the water, or in the air; therefore, it includes all birds, beasts, reptiles, fish, and insects. In each of these divisions of living creatures there are great numbers of different animals; and of each kind of animal there are many varieties. Thus, for example, dogs are animals of a perfectly different kind from monkeys; and there are many varieties of both dogs and monkeys. We have considered all the creatures of the same kind to form one *animal family*, such as the "cat family," and so forth; and then we have described some of the chief members of each family, as in the "cat family" we have described the lion, and the tiger, and the leopard, and some others. It will also be seen that several animal families form a single group because they all agree in some one important particular; thus, several animal families form one group because they all are "beasts of prey"—they all find their food, that is, by preying on other creatures weaker than themselves.

And *Botany*, which we have treated very much in the same way that we have treated Zoology, contains the history of what may be well distinguished as the *vegetable world*—all those living works of Nature, trees, and plants, and flowers, which clothe the earth with varied beauty, and render such useful and valuable service, not to us human beings only, but also to all the other living creatures which inhabit the earth together with ourselves.



# PICTURE NATURAL HISTORY.

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## DIVISION I.—ZOOLOGY.

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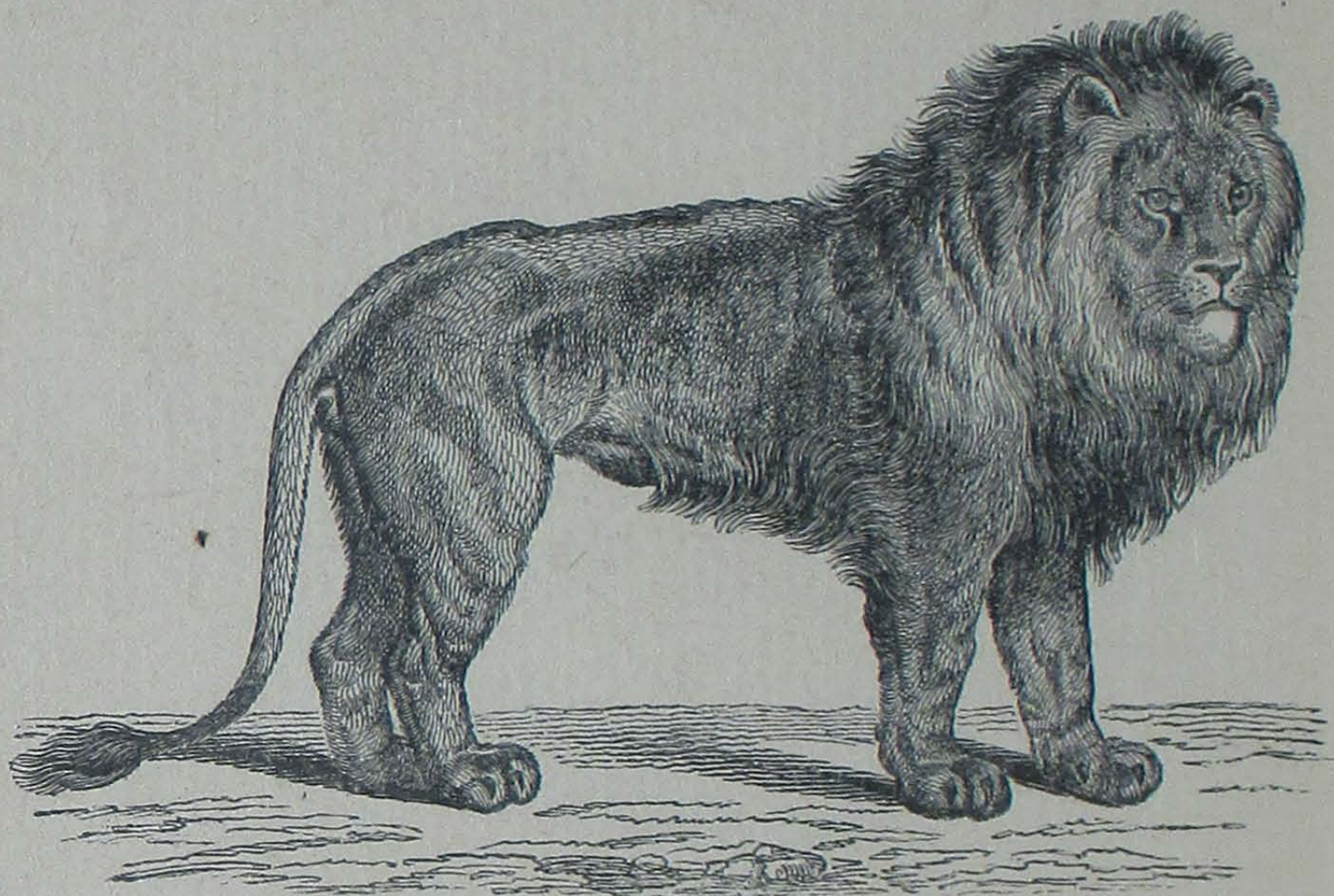
### PART I.—QUADRUPEDS.

ZOOLOGY is the History of all living creatures. As there are several varieties of living creatures, Zoology is divided into several parts, each of which treats of one great variety of living creatures.

The first of these parts contains all the families of those living creatures which are called Quadrupeds.

QUADRUPEDS are animals that have four feet; and, with the exception of a few which live both on the land and in the water, they all live on the dry land and breathe the air as men do. The young of Quadrupeds are born alive.





No. 1.—THE LION.

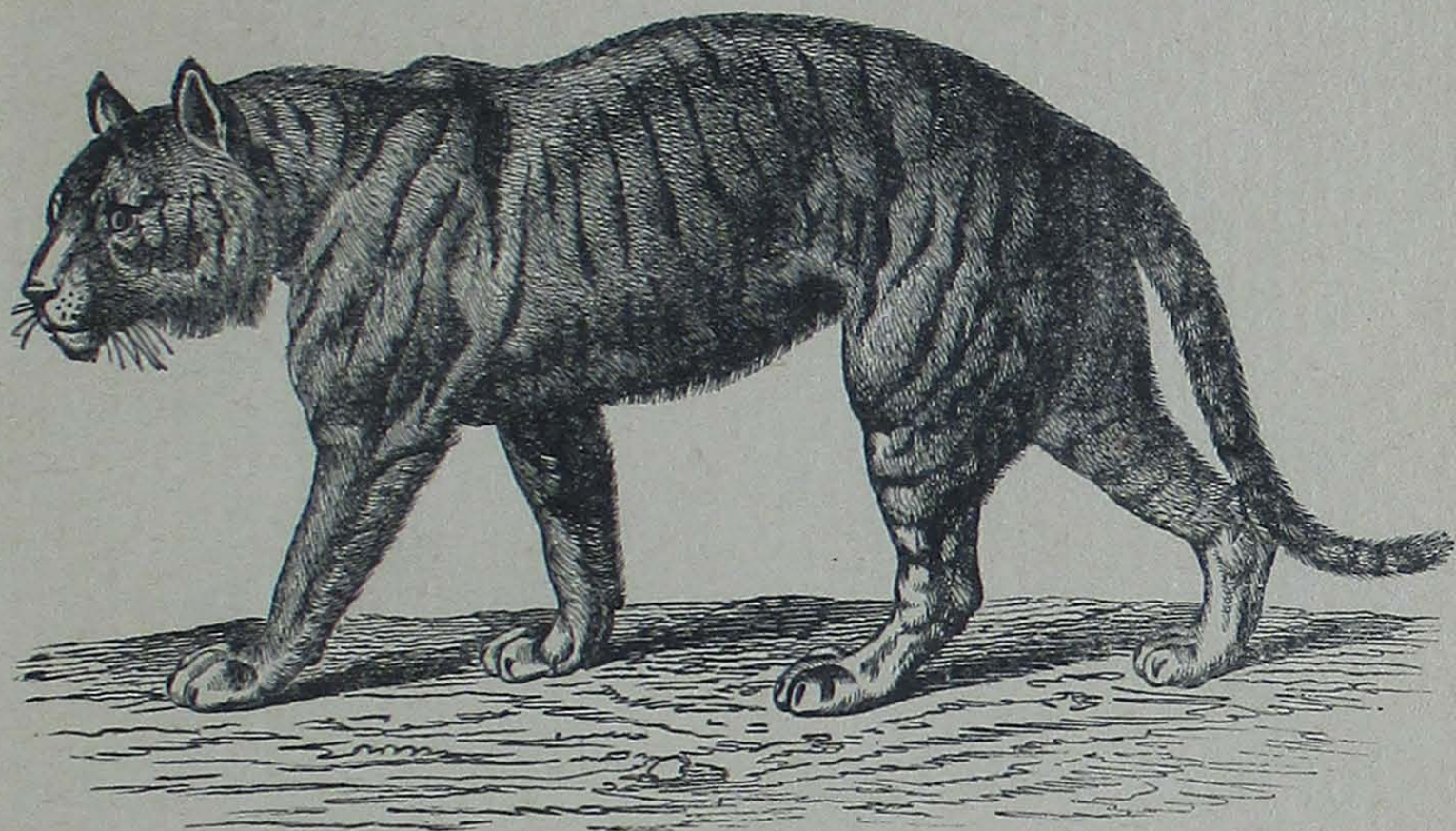
No. 1.

## THE LION.

FIRST amongst the quadrupeds, and for that reason styled the *King of Beasts*, comes the LION; and, with his stately form and his flowing mane, a truly royal-looking beast he is. The lion is like a king in being very strong and powerful, and he has a royal voice, too; not, indeed, that real kings of men roar like lions; but the voice of a king, which always is dignified and commands the greatest respect, when he is angry may be very terrible; so

the loud fierce roar of a lion may be said to have a royal sound. Yet in his nature the lion is not king-like, unless he be compared with some of the native kings of Africa, of India, Arabia, and Persia, where the lion lives, for he is a cunning, treacherous, and cruel beast, and not generous and noble—a true *king of the cats*. The lion is of a tawny colour; he stands about four feet in height, and is about eight feet long. The lioness is smaller and fiercer than her mate; she has no mane; her cubs are playful little things, and she has either two, three, or four at a time.





No. 2.—THE TIGER.

No. 2.

## THE TIGER.

THE Tiger, which lives chiefly in India, is rather longer than his great rival the lion, but not quite so tall; he has no mane, and, accordingly, he may be considered to be a striped cat of immense size. His strength is truly astonishing, and so also is his agility. Like the lion, he is very cunning and cruel; but he is bolder and fiercer than the king of beasts. No beast is more beautiful than the tiger; and the dark stripes, which make his rich brown fur so beautiful,

also are so like the tall jungle-grass of his Indian home, that it is most difficult to see him until his prey has come within the reach of his deadly spring; and *then* his presence is *felt*. Tiger-hunting is a wild and dangerous sport; the hunters ride on elephants, and they now have such good rifles that they are almost certain to kill the tigers, when they have found them. In some parts of India, however, the tiger is a terrible enemy of the people; he prowls about the villages, and too often succeeds in carrying off some unfortunate man or child.



No. 3.

## THE WILD CAT.

WITH the exception of having a bushy tail instead of a tapering one, the only difference between the Wild Cat and that favourite and friend of ours his cousin the domestic cat is that while one creature is tame the other is wild. In all his ways and doings the wild cat is very cat-ish, particularly in every bad cat way; and we all know what *that* means. If a tiger is an enormous cat, a wild cat is a small tiger.



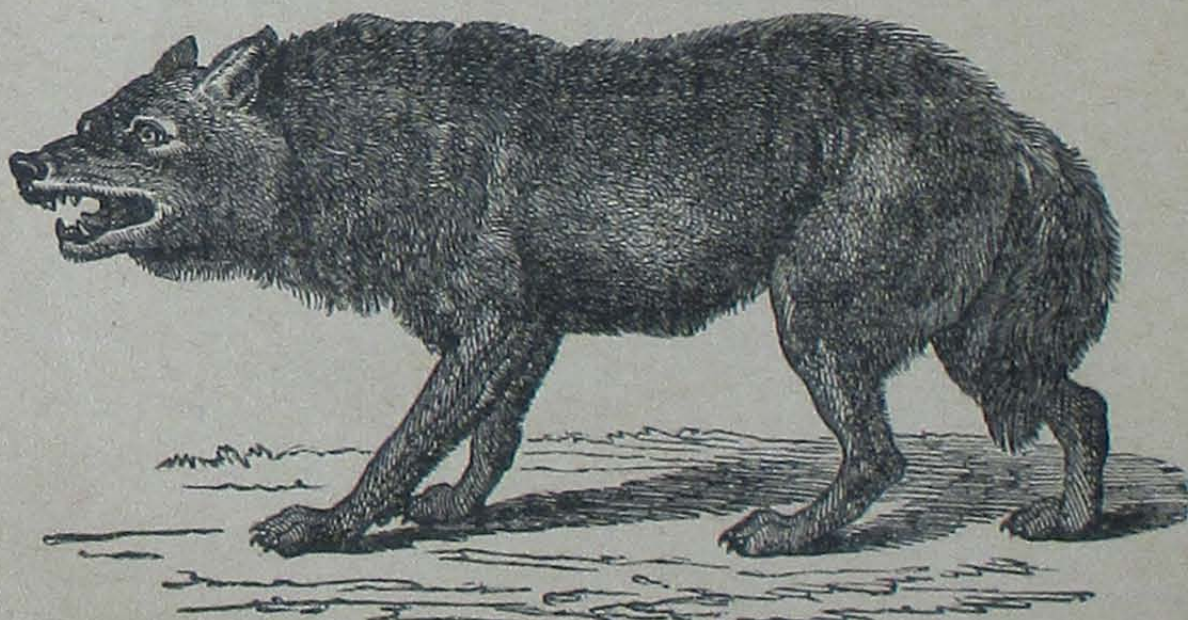
No. 3.—THE WILD CAT.

No. 4.

## THE WOLF.

THIS crafty, cowardly, savage animal, belongs, not to the cat family, but to the dog tribe. Yet there is nothing

of the dog about him—nothing noble and faithful and generous. And the dogs themselves seem to know that; while they cannot deny him to be a member of their family, the Wolf has none of their qualities, and



No. 4.—THE WOLF.



they hate him accordingly. Wolves hunt in packs; and, when on the track of their prey, they pursue the chase with a long gallop which appears never to tire them. The jaws and teeth of the wolf are very strong; and when he bites he gives several quick, short, *wolfish* snaps, with which he tears his prey. Until about the year 1350 wolves were common and very dangerous in England, but at that time they were all destroyed.

No. 5.

### THE LEOPARD.

THE Leopard is a large animal of the cat family. It is a beautiful

creature, having its skin covered with spots. It is swift and fierce; and because it lives so much amongst the branches of trees, the natives of India and Africa, where it lives, call it *Tree-tiger*. Its movements are wonderfully graceful, and its activity and agility are quite equal to its grace. It is easily tamed, and when in this condition shows its pleasure by purring like a domestic cat.

No. 6.

### THE JAGUAR.

THIS animal might be called the *American Leopard*, because America is its home. It differs from the leopard only in being considerably



No. 5.—THE LEOPARD.



larger, and in having a black streak across its breast. Its skin is covered with beautiful spots, which, like those of the leopard and panther, are in little clusters; so that these creatures may be said to be covered with rosettes. In the middle of each rosette the Jaguar has a black spot. He is as clever a climber as the leopard, and is both a fierce and rapacious animal.



No. 6.—THE JAGUAR.

No. 7.

### THE LYNX.

THIS very sharp-looking creature, which is quite as sharp as it looks, is one of the short-tailed members of the cat family, and is about three feet in length. It is found in the vast forests of the north of Europe, Asia, and America, where it is a terrible enemy to all animals weaker and smaller than itself, but it does not attack man. The Canada lynx moves in a very curious way, by a quick succession of jumps, with all its four feet off the ground at once, and its back arched. The skin is valuable, and about ten thousand of them are exported from Canada every year.

No. 8.

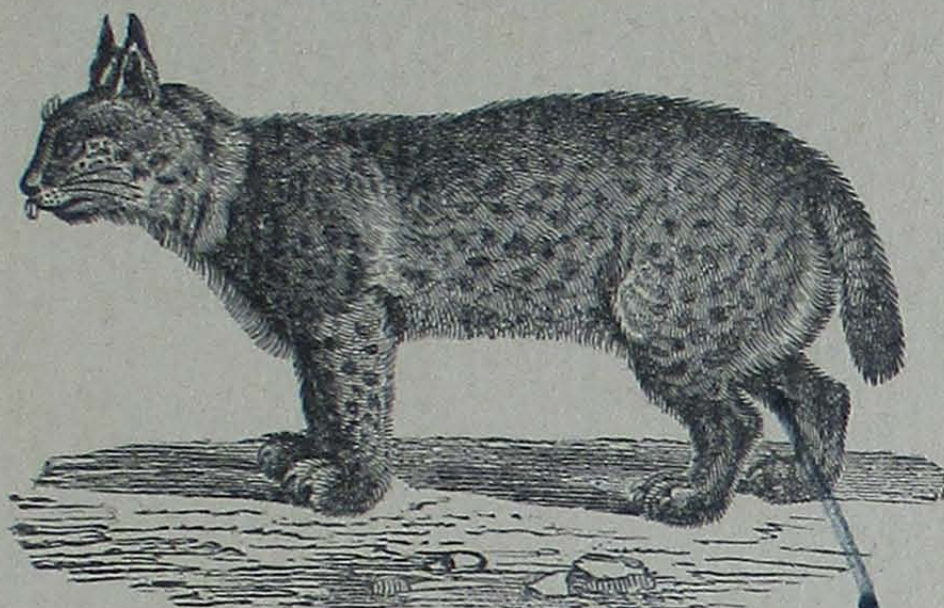
### THE WEASEL.

SMALL as the Weasel is, it is a passionate and also a very courageous animal. It makes a dash at its victim or enemy, always aiming at



No. 8.—THE WEASEL.





No. 7.—THE LYNX.

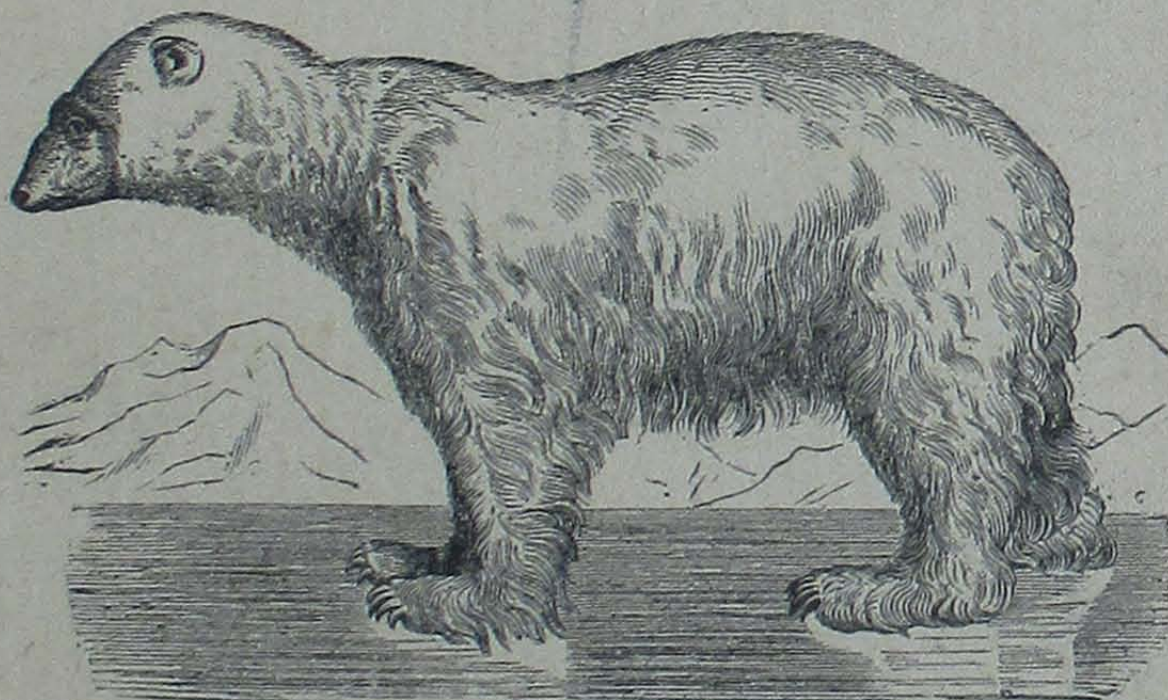
the throat; and, with its sharp, strong teeth, it is certain to inflict a dangerous if not a fatal wound.

No. 9.

## THE WHITE BEAR.

THE White or Polar Bear lives in the

Polar or Arctic Regions; it is larger than the brown bear, and feeds on seals, fish, and even on the walrus; and it can both swim and dive, it is a formidable enemy. The soles of its feet are covered with long hair, so that it can keep its footing on the ice with ease.



No. 9.—THE POLAR OR WHITE BEAR.



No. 10.

## THE BROWN BEAR.

UNLIKE its Polar cousin, the Brown Bear frequents the forests of Northern Europe, Switzerland, and the Pyrenees, and it is said to have been found in Scotland rather more than eight hundred years ago. It is very fond of honey; in fact, bears will eat both animal and vegetable food with equal appetite.



No. 11.—FORE-FOOT OF BEAR.



No. 12.—HIND-FOOT OF BEAR.

Nos. 11 and 12 show us the fore-foot and hind-foot of the bear; they differ from the feet of the cat family, both being suited to the different characters of the animals

themselves. Cats being naturally quick in movement and light in weight, walk on their paws or toes; but bears are heavy, and walk with their feet flat on the ground.

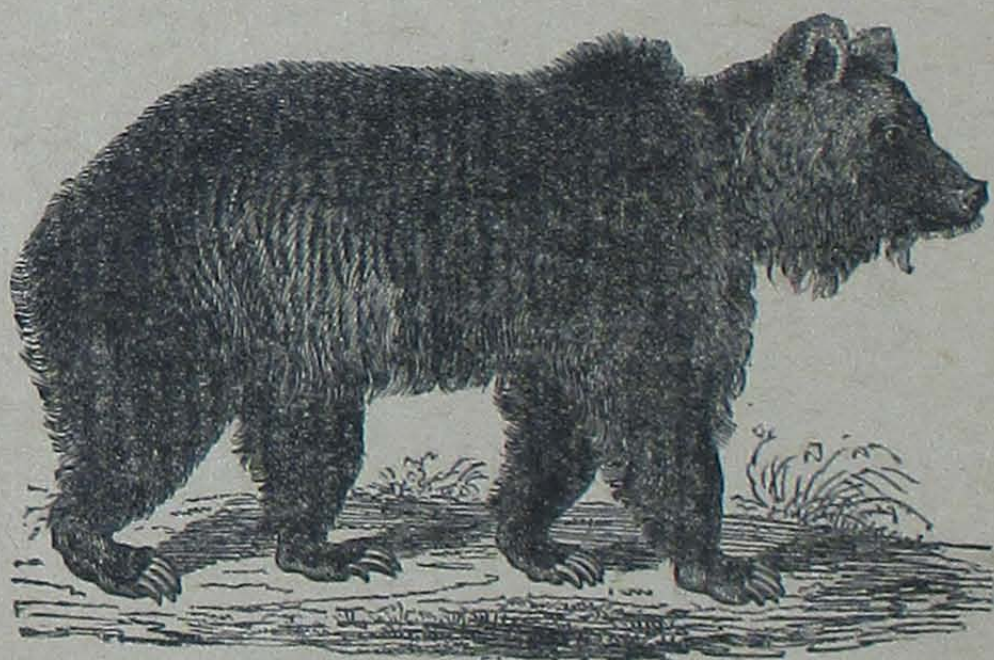
Bear-baiting was a favourite amusement in the days of Good Queen Bess, the unlucky bear being tied to a pole, and dogs set at it. This most cruel sport is happily no longer in existence.

No. 13.

## THE GLUTTON.

THE Glutton, or Wolverine, lives in North America; its name partly tells its nature, which prompts it to pursue its prey with unrelenting ardour. It is a sad enemy to the sable-hunter; following him at a distance, it robs the traps, and destroys the sables.

The glutton is very determined,



No. 10.—THE BROWN BEAR.





No. 13.—THE GLUTTON.

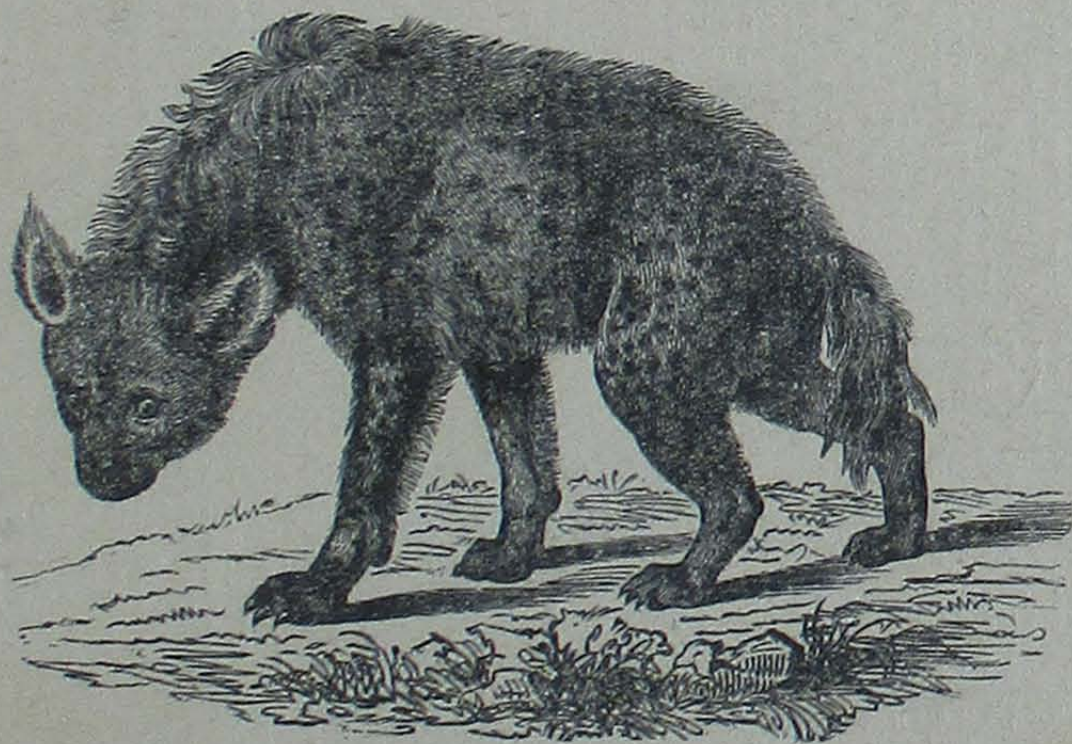
and will often come off victorious when attacked by a dog, although it is a small animal, only two feet six inches in length, not including its tail.

No. 14.

### THE HYÆNA.

THE Hyæna looks just what he is—a ferocious, cowardly, and ravenous

creature. Its hind-quarters slope away very much, a consequence of which is that it has a strange shambling way of walking, and an odd kind of trotting run. The hyæna inhabits Asia and Africa, and we may be very glad that he is a stranger to our part of the world, except when we can look at him through the bars of a strong cage.



No. 14.—THE HYÆNA.



No. 15.

## THE SHREW MOUSE.

THE nose of the Shrew Mouse is much longer than that of the common



No. 15.—THE SHREW MOUSE.

mouse; its teeth are stronger, more pointed, and sharper; and it has such a peculiar scent that a cat will not eat it, though she will pounce on it and kill it.

No. 16.

## THE ERMINE.

THIS is the same animal as the *Stoat*; and, indeed, it is called the *Ermine* only in those northern countries in



No. 16.—THE ERMINE.

which, in the winter, its fur turns white, with the exception only of the tip of its tail, and this remains black as the whole of the fur used to be.

No. 17.

## THE RACCOON.

THE very clever, crafty-looking creature, represented in No. 17, is quite as clever and quite as crafty as he looks. About the size of a large



No. 17.—THE RACCOON.

fox, his skin is of great value; and he thinks so himself, and he takes great care to keep his own skin for his own use and comfort. However, wary as he is, the American hunters contrive to shoot the raccoon in considerable numbers.

No. 18.

## THE MOLE.

THE Mole has very small eyes protected with a mass of fur, and in every respect it is well provided for its



curious underground life. Its fore-paws are formed like *hands*, armed with strong sharp nails, with which it burrows into the earth. It has a voracious appetite, and it lives chiefly on earth-worms; it eats every two hours, and this constant eating makes

he is; and one look at a live fox would also tell us that the picture was a good likeness. He is a sleek, elegant creature, with a beautifully bushy tail. At night he creeps out of his hole, hides himself in the tall weeds and grass, or in some thick brushwood; and, should a roaming hare or rabbit come near him, he pounces on it in a moment, giving it no chance of escape; and he is also a sad enemy to all poultry. The fox has a very strong



No. 18.—THE MOLE.

the mole a thirsty creature, so it is fond of burrowing near water, or else it scratches out little holes to catch the rain, and thus it may be said to dig wells for itself.

No. 19.

## THE FOX.

ONE look at the picture of the Fox will tell us what a sly, cunning fellow

scent, by which dogs can follow him for many miles; and from this, and because of his speed, fox-hunting is a favourite English sport. In the Arctic Regions the fox is white. He may be tamed sometimes; and we ourselves once had a great friendship for a fine fox who was as tame as a cat, and would jump upon our lap and curl himself up there to be coaxed.



No. 19.—THE FOX.

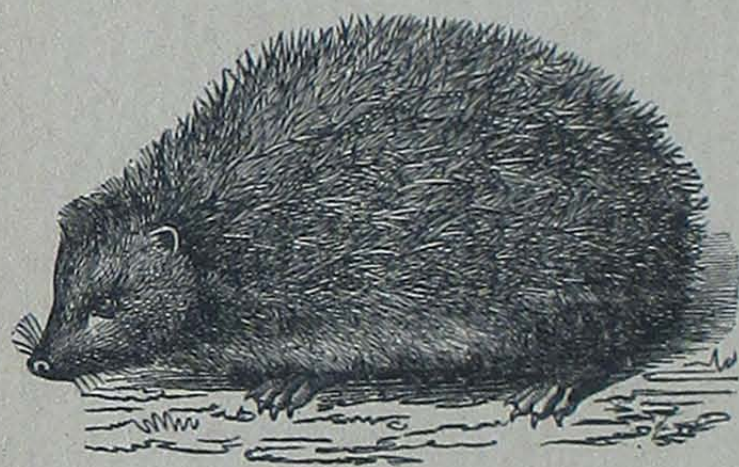
No. 20.

## THE HEDGEHOG.

THE Hedgehog is the only English animal whose skin is protected by a kind of armour of sharp spikes. When attacked, the hedge-



hog rolls itself up, so that it looks like a large prickly ball; even the fox is puzzled to get at such a well-armed morsel, and can only do so by carefully rolling the hedgehog into a small pool of water, when the unlucky creature unrolls itself to see what is the matter, and is directly seized. In winter the hedgehog sleeps, curled up in a hole, comfortably lined with moss and dead leaves.



No. 20.—THE HEDGEHOG.

No. 21.

### THE MARTEN.

IN England there are two kinds of Martens, called the *Pine* and the *Beech* Marten, from their fondness for living in those trees. A poor little chicken is here seen in the clutches of the marten; unfortunately, this small animal is far too fond of robbing fowl-yards. It gets punished by being much valued for the sake of its

beautiful fur, which is almost as good as that of the sable.



No. 21.—THE MARTEN.

No. 22.

### THE SKUNK.

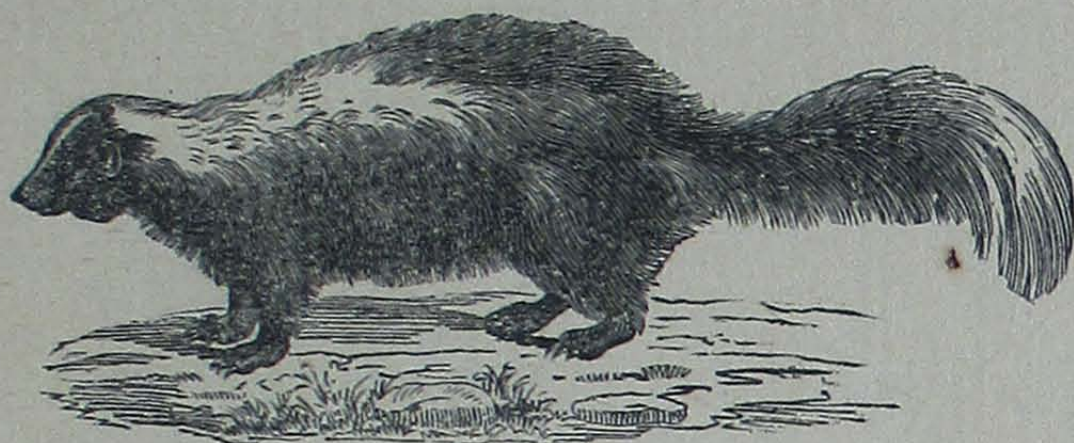
THE Skunk lives in the back-woods of North America. When it is hunted, it suddenly stops, and such an offensive smell comes from it that its pursuers are obliged to retreat. It is smaller than the fox, and its fur is beautifully striped; it has a fine bushy tail, which it curls over its back like a squirrel.

No. 23.

### THE CIVET.

THIS little animal is found only in North Africa and Abyssinia; it likes to live on the desolate hills, where there is neither grass nor small shrubs to shelter it. There is one very odd thing, or rather peculiarity,





No. 22.—THE SKUNK.

about the civet: a perfume is hidden in a sort of little pouch under its tail. This perfume is much valued, and, when the civet is killed, the pouch is sometimes cut off whole, and then sold at a much higher price than when the scent is first taken out of the pouch, as people are apt to mix other things with it to make it more, which of course takes away from the real worth of the perfume. The civet, which can see in the dark like a cat,

feeds on birds and small animals. It is a very active little creature, and is only about two feet long.

No. 24.

## THE OTTER.

THE Otter is very nearly as much at home in the water as on the land; its nature is almost exactly the same as that of the polecat, for it is very voracious, kills a great many more



No. 23.—THE CIVET.





No. 24.—THE OTTER.

animals than it can eat, and is very dainty, only eating choice little bits. When in the water, the otter moves about most gracefully, twisting, turning, and diving, as easily as possible. It is very fond of fish, and will destroy quantities, only caring to eat delicate morsels, and leaving the rest of the fish untouched. In Scotland otter-hunting is a very popular amusement, the creature being first tracked by its footsteps; then great is the excitement, for the otter is most difficult to catch; it dives, bites, and hides itself, and gives no small trouble to its hunters. It can be easily tamed, and is then sometimes taught to fish for the benefit of its masters.

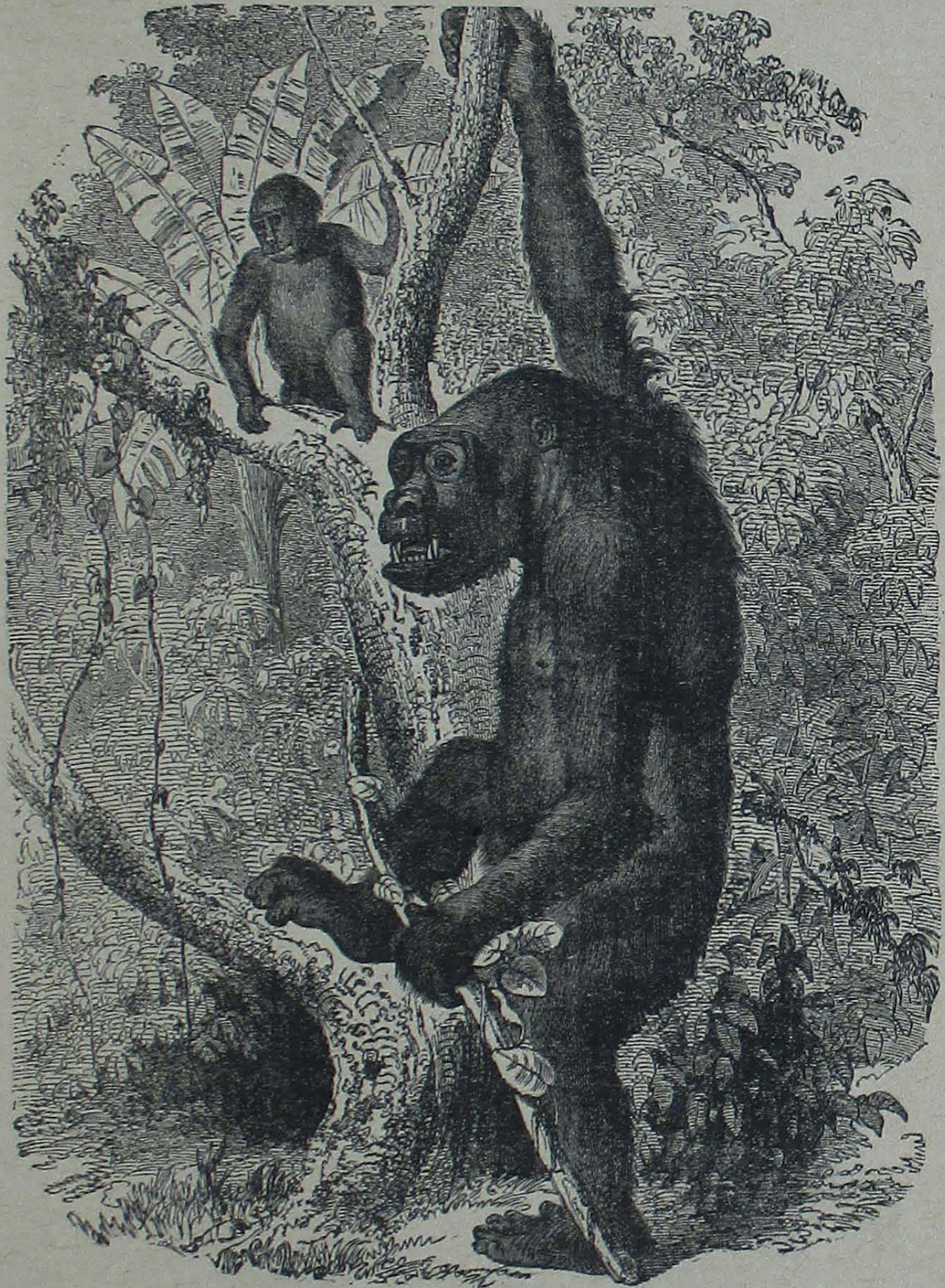
No. 25.

## THE GORILLA.

WE now have come to a family of animals which have been called, not *quadrupeds*, but *quadrumans*; that is, creatures having *four hands*, instead

of *four feet*; for not only have they hands rather than feet attached to their fore-limbs, but the feet of their hind-limbs also are strangely hand-like, and capable of grasping the branches of the trees amongst which many of them spend the greater part of their lives. Some of these singular animals might even be said to have *five hands*, since they have such very *handy* tails, that they are able to use the tips of them like fifth hands. There are three principal varieties of the animals of this class—apes, baboons, and monkeys. The first are ferocious creatures, and, unlike the lively and mischief-loving baboons and monkeys, they are sullen and dull. Apes for the most part live on the ground, and they find homes for themselves in hollow places amongst rocks, or in caves; they are long-lived, have immense strength, and some of them grow to be four or even five feet high. There is in all the animals of this family something that is





No. 25.—THE GORILLA.



both ludicrous and painful—something that causes us to be disposed to laugh, while at the same time it almost makes us feel sad. It is impossible, indeed, not to be highly amused with the agility, the tricks, and the innumerable *monkeyish* ways of these strange animals; and yet, when we laugh the most heartily, we cannot help feeling that they have an uncomfortable likeness to human beings. But then, if this be so, we may remember that, while the monkey family shows us how animals may have a certain likeness to human beings, in these same creatures we have a warning that it is possible for human beings to make themselves like animals. Nature has made monkeys to be a little like men; but when men resemble monkeys, the likeness is *of their own making*—it is because they are wilfully mischievous, and given up to follies and vices that degrade them to a level with the lower animals.

The Gorilla is the largest, strongest, and most fierce of all apes. It is covered with long hair, its face has a most brutal expression, and its character is in keeping; for the temper of the gorilla is cruel, it kills for the sake of killing, and is a most formidable enemy on account of its enormous strength. On its hind-paws it has short fingers and a very

long thumb; its fore-paws are just the contrary—the fingers long, and the thumb short. On account of its dangerous nature, the habits of the gorilla are not very well known. The largest specimen ever brought to England was five feet six inches tall. This creature lives in Western Africa.

No. 26.

### THE CHIMPANZEE.



No. 26.—THE CHIMPANZEE.

CHIMPANZEES are natives of Western Africa, and in their own country they exist in immense numbers; they also

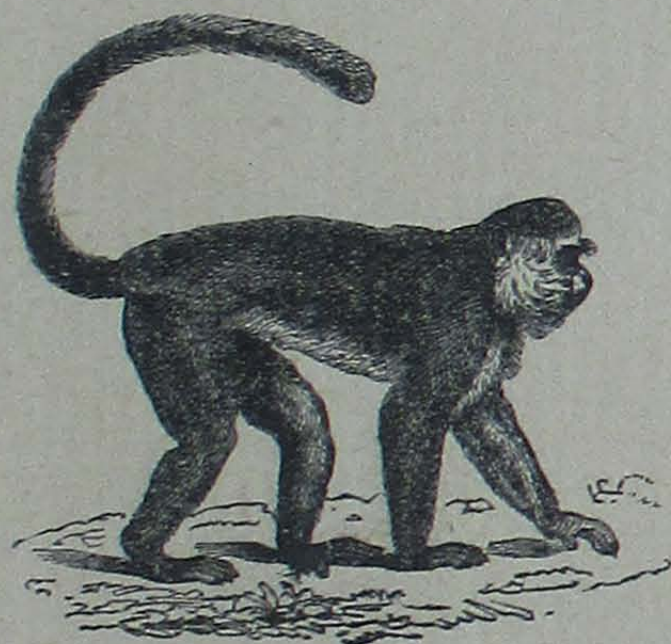


delight to form themselves into great bands, when they are strong enough and fierce enough to drive away even lions and elephants from the places where they themselves prefer to live.

No. 27.

### THE ENTELLUS MONKEY.

HERE we have a true specimen of a monkey, with all the qualities that we expect to find in a creature bearing that name. The Entellus, which is a



No. 27.—THE ENTELLUS MONKEY.

little more than two feet long, is a native of India, and there are several varieties of it. This monkey is one of the most active of living creatures; and such is its instinct that, certainly without intending any such thing, it is a friend to mankind in this way: the

C

Entellus delights to catch and destroy venomous serpents. It watches a snake until it falls asleep, and then, as quick as a flash of lightning, it seizes it by the throat; but it does not kill its victim until after it has destroyed its poisonous fangs, which it does by grinding them down upon the first large and hard stone it can find, holding the snake quite tight, and rubbing its head on the stone, grinning and chattering all the time. Then, when the snake has been made harmless, the Entellus tosses it to its young, who, apparently conscious that it cannot hurt them, play very rough tricks with it before they kill and eat it.

No. 28.

### THE URSINE HOWLER.

THIS is one of the monkeys that are found only in South America, where they are abundant. In Brazil, forty or fifty of them have sometimes been seen in a single tree. When they set out on a journey, an old Howler takes the lead, and the rest follow in regular order, just as if they had been drilled; but they do not move very quickly. They feed on fruit and vegetables; and, as will be seen in the picture, they can use the tips of their tails to grasp branches. These creatures have very peculiar throats, which



enable them to utter a very loud and mournful cry; and this they do at sunrise and sunset, also when anything



No. 28.—THE URSINE HOWLER.

excites or agitates them, one monkey beginning, and then all the rest howling in a most dismal concert.

No. 29.

### THE MARMOSET.

THE Marmoset is the pet of all monkeys, and is a really beautiful and interesting little creature. It is brisk and lively, with brilliant eyes, and the softest of fur. It is very tender, however, and in England it must be kept warm. It knows how to make itself snug, and is quite happy if it can nestle under a heap of cotton-wool. It is very fond of flies, and, indeed, of

all insects; but it also eats fruit of almost every kind.



No. 29.—THE MARMOSET.

No. 30.

### THE NIGHT MONKEY.

THIS little creature gets its name from its habit of sleeping all day, for its eyes are so sensitive that it cannot



No. 30.—THE NIGHT MONKEY.

bear the light. As soon as darkness comes on, the Night Monkey is



activity itself; it eats small birds and insects, and is so quick in movement that it will strike down flies on the wing.

No. 31.

### THE DOG-HEADED MONKEY.

BOTH in temper and habits this monkey is most unpleasing. In the picture we see the Dog-headed



No. 31.—THE DOG-HEADED MONKEY.

Monkey in the middle of one of its favourite climbing expeditions in its native country of Africa.

No. 32.

### THE CREEPING BAT.

THIS bat has a most curious habit of *creeping*; it drags itself along by its



No. 32.—THE CREEPING BAT.

claws in the odd *doubled-up* sort of attitude seen in the picture.

No. 33.

### THE LONG-EARED BAT.

THE Long-eared Bat is quite at home in England. His ears are about an inch and a half long, and they give him a very pert look. Like the rest of his race, he is dull and sleepy during the day, and brisk and lively as the evening comes on. Then he rouses himself, and is soon on the wing in pursuit of the insects on which he preys. He has a strange way of sleeping, hanging by the claws of his



hind feet, with his head downward, and his film-like wings closely folded up, as he is shown in the picture No. 33.



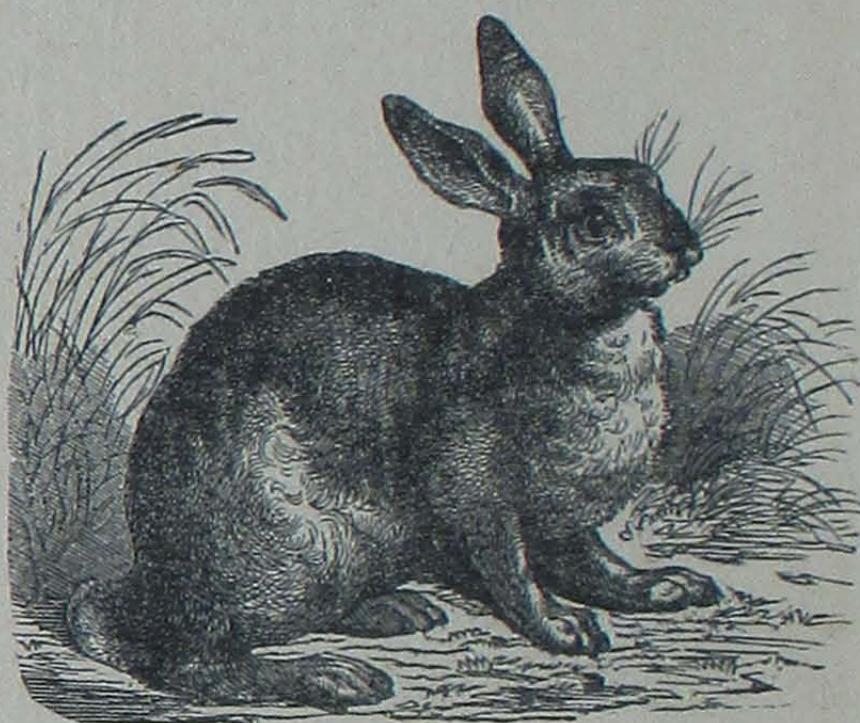
No. 33.—THE LONG-EARED BAT.

No. 34.

## THE HARE.

THIS pretty, inoffensive, timid creature, with its bright soft eyes and its long black-tipped ears, has more enemies than any other animal, because it is so very good to eat, and it has no means of self-defence except

its swiftness. Hares make for themselves not very comfortable nests, or *forms*, upon the ground, and there they will lie crouching down, with



No 34—THE HARE.

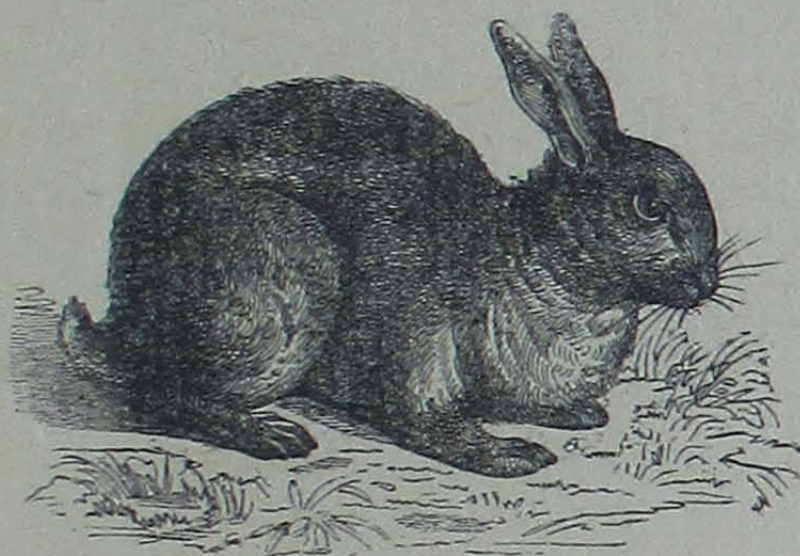
their ears stretched along their backs ; but, when they have been roused, they lift themselves up, with their ears erect, listening for every sound. In open places, such as parts of Salisbury Plain, Hares may be seen in immense numbers ; and a truly pleasing sight it is to observe their graceful gambols and their rapid movements. Hares are hunted, and also chased, or "coursed," by greyhounds. In cold countries, the Hare, like the Fox its enemy, changes the colour of its tawny fur to white, and thus it escapes many a danger from being so like the snow which surrounds it.



No. 35.

## THE RABBIT.

WE are as familiar with Rabbits as we are with Hares, and sometimes even more so, because there are so many varieties of tame Rabbits which are kept in great numbers, and made pets and favourites. Rabbits burrow in



No. 35.—THE RABBIT.

the ground, and live in holes which they have made for themselves, and in which they instantly take refuge when alarmed. Rabbits delight to dart and frisk about, and they can run very swiftly. They have a great many young ones, which soon grow up, and begin to dig burrows for themselves.

No. 36.

## THE MARMOT.

THIS pretty little creature, which is common throughout the mountainous parts of Europe, burrows in the

ground like a rabbit, and makes a house having two rooms in it; one room for itself, and one in which it may store up its provisions for the winter; for the Marmot shuts itself into its snug underground dwelling when the winter months are coming near, and there it lies torpid until the sun is warm again. In the spring



No. 36.—THE MARMOT.

and summer, when they go out of doors to look for food, Marmots always have one of their number keeping watch, like a sentry, to give them notice should a dog or any other of their enemies come within sight; and if an alarm should be given by this faithful watcher, they all dart away into their holes, the sentinel Marmot seeing the rest in safety before he thinks about himself.

No. 37.

## THE GUINEA-PIG.

THE Guinea-pig is a pretty little



animal, not very intelligent, but quiet and tame.

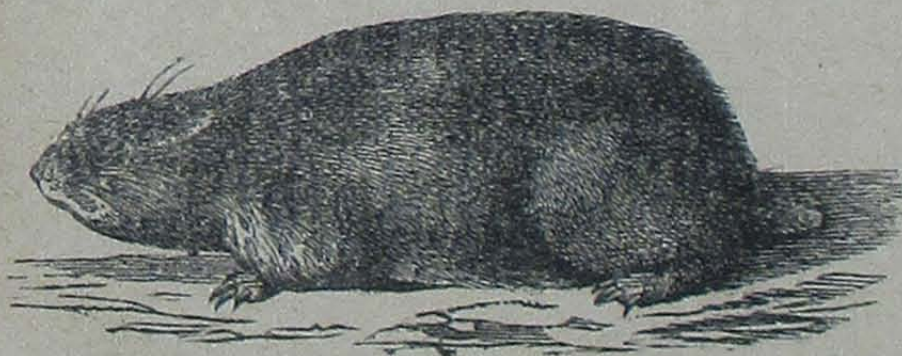


No. 37.—THE GUINEA-PIG.

No. 38.

### THE LEMMING.

HAPPILY, the Lemming is only found in the northern parts of Europe. Small as this animal is—about six inches long—the mischief it does is very great indeed. The Lemmings travel about in enormous *packs*, laying waste the country, eating their way through stacks of corn, and swimming rivers in spite of being eaten by the larger kinds of fish; and they generally travel on till they come to the sea, where they perish.



No. 38.—THE LEMMING.

No. 39.

### THE BEAVER.

THE Beaver, which is between three and four feet in length, might be called the *Builder*, for it is the master mason of all animals, so wonderful are the skill, ingenuity, and perseverance which its instinct teaches it to display in constructing its dwelling. Beavers live in communities, and they place their houses *in* rivers, in such a manner that the



No. 39.—THE BEAVER.

entrance is below the surface of the water; so, when they go into their houses, they do so by diving. That their under-water doors may be deep enough below the surface to be out of the reach of the frost, they place a dam across the river in which they intend to build their houses, that may stop the stream until

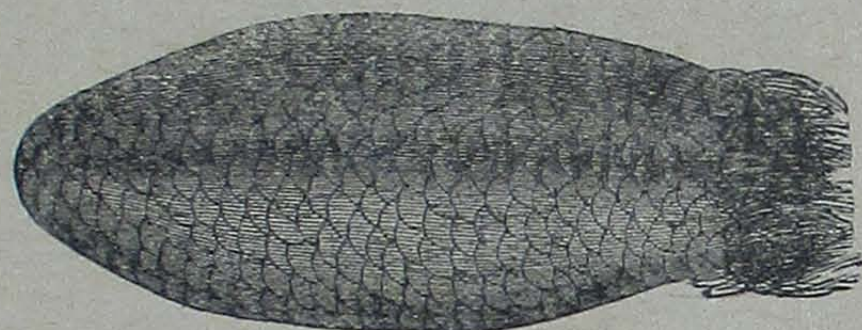


it becomes as deep as they want it to be. They make this dam of trees and branches, which they cut down in the summer with their strong sharp saw-like teeth. The Beavers sink some of the wood by piling up stones on it;

The fore foot (No. 40) of the Beaver, and its hind foot (No. 41) are seen to be admirably suited for working both out of the water and in it. And No. 42 is the scaly tail, with which the Beaver slaps the water when he



No. 40.—FORE FOOT OF BEAVER.

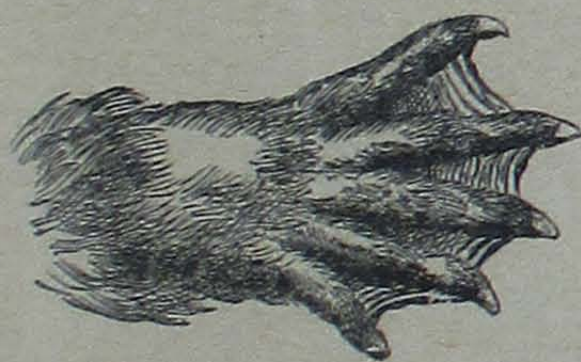


No. 42.—TAIL OF BEAVER.

and they strengthen their whole building with stones and mud, which they keep carrying to the water between their chins and their fore-paws, and throw in until their work is done. Though their houses stand close together, each one has its own separate entrance, and thus each family of

dives, and which he has been considered to use both as a wheelbarrow to carry his building materials and as a trowel to spread his mortar.

When tamed, and in captivity, a Beaver will build a dam across a room with whatever materials he can find, such as books, brushes, &c.



No. 41.—HIND FOOT OF BEAVER.

beavers has its own house; and when the members of one family visit their neighbours, they dive out of their own home, and swim under the water to the doorway they desire to enter.

No. 43.

## THE SQUIRREL.

THIS brisk lively little creature, which inhabits our woods, frisks amongst the branches of trees, and hides behind them, or it runs up and down the stems with extraordinary agility. It also jumps from branch to branch, and from tree to tree, and sometimes it changes its course while in the air, which it seems to do by a whisk of its beautiful bushy tail.



This tail is so large, that it can cover the whole of the Squirrel's back, and



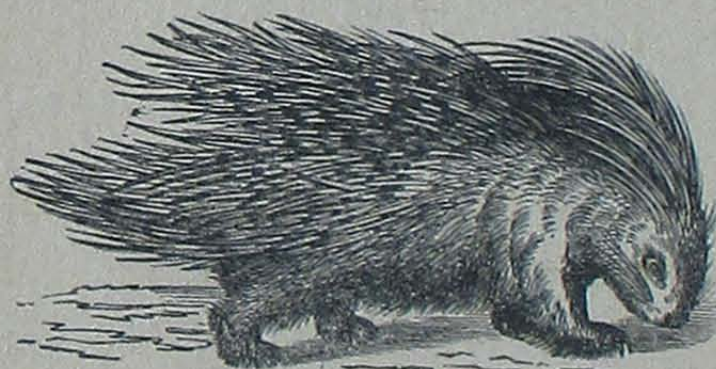
No. 43.—THE SQUIRREL.

this has caused the Squirrel to be called a Shadow-tail. Squirrels make nests amidst the branches.

No. 44.

### THE PORCUPINE.

THIS curious animal, which is found in Asia, Africa, and some parts of Europe, is armed like a hedgehog,



No. 44.—THE PORCUPINE.

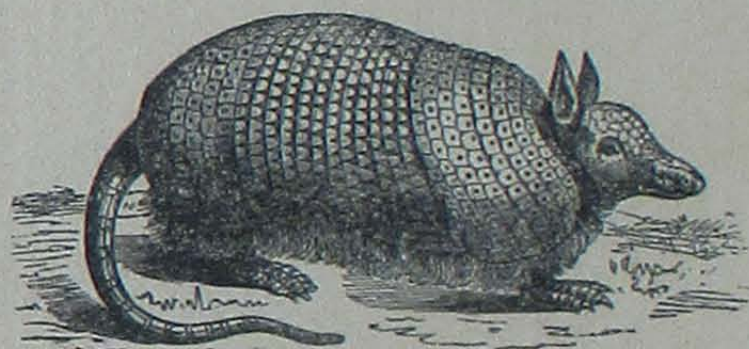
with an armour of spikes that are like quills, and vary in length from six to fourteen inches, the creature

itself being about two feet long. It is very harmless, feeds on vegetables only, and lives in holes which it burrows in the ground.

No. 45.

### THE ARMADILLO.

THIS creature, which is covered with a hard horny substance like armour, is found in the warm parts of America. It feeds on the dead bodies of the numerous bisons that have been killed by hunters for the



No. 45.—THE ARMADILLO.

sake of their skins. Armadillos burrow very quickly in the ground, and they therefore are not easily caught. They are considered to be great delicacies, and are roasted in their shells, which thus are used as natural dishes.

No. 46.

### THE ECHIDNA.

THE Echidna lives in Australia. It is something between a hedgehog





No. 46.—THE ECHIDNA, OR PORCUPINE ANT-EATER.

and a porcupine in appearance, with a peculiar long head, formed like the head of the ant-eater. It has no teeth, but a long tongue, with which it catches ants and other insects. It has very strong claws, and burrows into the ground so quickly, that it seems to disappear as if by magic.

being broad-footed. Australia is its native country. It burrows in the banks of rivers, its feet being so made that the web part can be folded back when the creature chooses. It lives on shell-fish and any insects it can find in the water, never swallowing the crushed shells.



No. 47.—THE DUCK-BILLED PLATYPUS.

No. 47.

### THE DUCK-BILLED PLATYPUS.

THIS curious name is well suited to this most curious creature. It has a bill like a duck, and flat webbed feet, the meaning of the word *Platypus*

No. 48.

### THE DASYURE.

THE Dasyure, or Hairy-tail, is found in all parts of Australia. It varies so much in colour that two Dasyures are seldom alike; dark brown is the commonest hue, with large white





No. 48.—THE DASYURE.

spots. It lives in hollow trees, and comes out at night to look for the small animals on which it feeds:

stick, and are then drawn in and swallowed. The Manis is found in Africa and India.

No. 49.

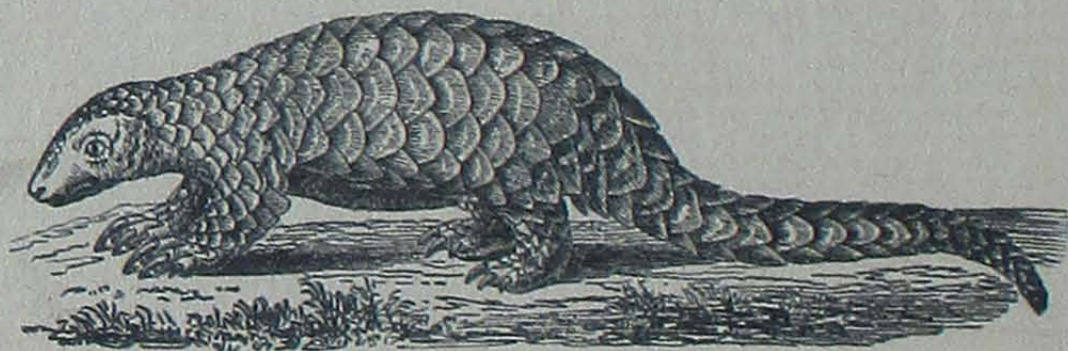
## THE MANIS.

THE Manis reminds us of the Armadillo, for it is covered with a kind of armour, like large scales; these scales the Manis raises up quite erect when attacked, wrapping its

No. 50.

## THE SLOTH.

ALTHOUGH the Sloth is shown in our picture as if it were climbing *up* a tree, its natural habit is to climb *under* the branches, to which it clings firmly with its long curved claws,



No. 49.—THE MANIS.

tail round itself, in which defensive attitude it defies all enemies but man. It lives on white ants, catching them by putting out its long gummy tongue, to which the unlucky ants

and actually sleeps in this position. When on the ground, these claws are very inconvenient, and cause the sloth to move in a slow awkward manner; but when up in the trees it



is anything but a *slothful* creature in its movements.



No. 50.—THE SLOTH.

No. 51.

### THE FLYING SQUIRREL.

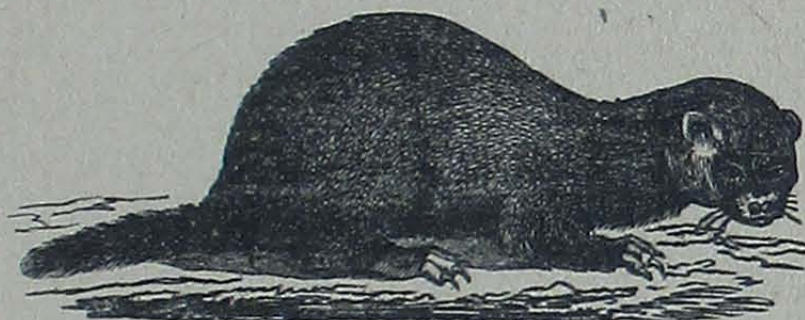
THIS Squirrel has a fold of skin on each side, which it spreads out when

preparing to take one of its flying leaps. This skin supports it in a kind of wing fashion, and really gives it the appearance of actually flying through the air. Flying Squirrels are found in the Rocky Mountains in America.

No. 52.

### THE POLECAT.

LIKE its tame relative the ferret, the Polecat is a member of the weasel



No. 52.—THE POLECAT.



No. 51.—THE FLYING SQUIRREL.

family, and it is a most cruel enemy to all poultry, as well as to rabbits.



No. 53.

## THE ICHNEUMON.

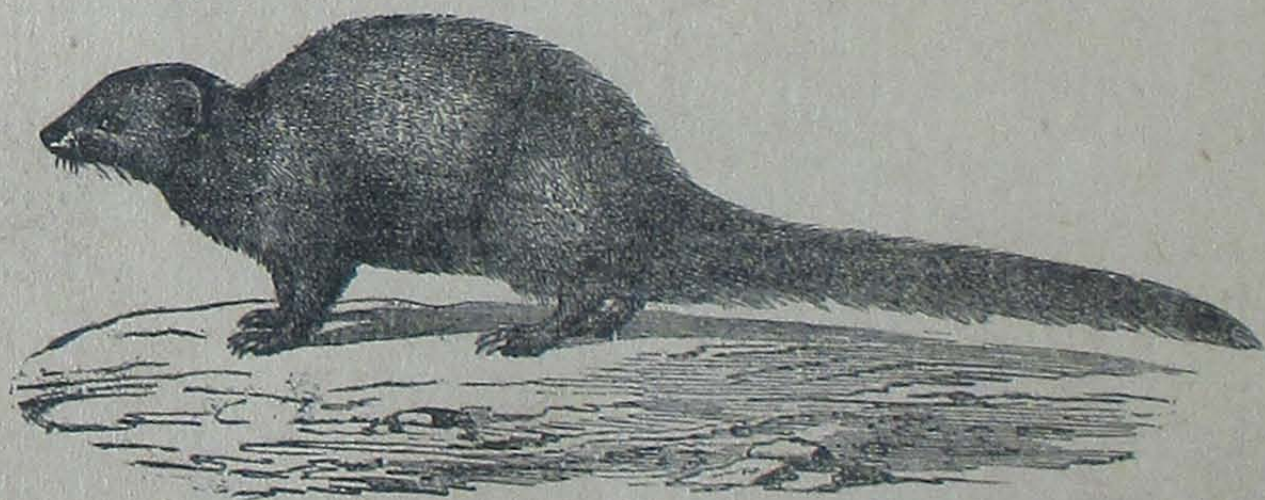
A MOST perfect *creeper* is the Ichneumon. It insinuates its long body and short legs into small crevices in search of its food, and does an immense amount of good by destroying quantities of the reptiles which are common in hot countries. Snakes, lizards, and crocodiles' eggs are its principal food, and most wonderfully active and agile is the Ichneumon in catching them, its feeding-time being in the night. It kills snakes by creeping along behind them, then with a sudden spring jumping on their heads, which it crushes directly with its sharp teeth. The Ichneumon is about eighteen inches long, not including its tail. In North Africa the Ichneumon is sometimes called Pharaoh's Rat, and is

often kept tame in the houses, because of its great use in killing all sorts of reptiles.

No. 54.

## THE KANGAROO.

So great is the difference between the length of the hind legs and that of the fore legs of this remarkable animal, that it has been supposed to use its small slight fore legs only as arms; but this is not really the case, for the Kangaroo does employ all four of its limbs when it moves from one place to another. Its chief power, however, as may be seen from the appearance of the Kangaroo, is placed in its hind legs, with which, aided by its long and very strong tail, it takes immense leaps, sometimes of five yards in each leap; and, as it is able to take these leaps very quickly one after the other,



No. 53.—THE ICHNEUMON.

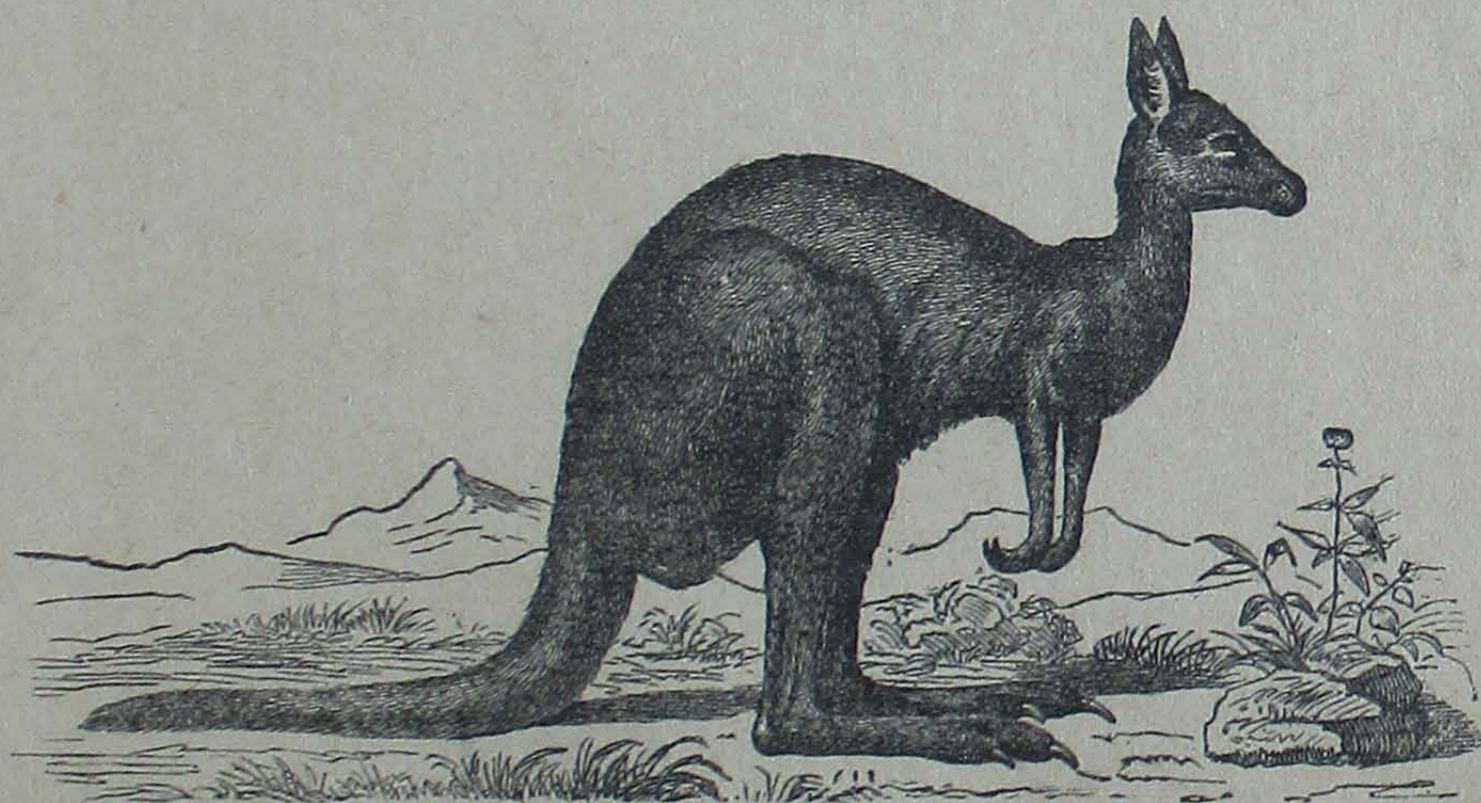


the Kangaroo is a very swift creature. It lives amongst the very tall grass of its native country, Australia; and it delights to sit up erect, supported by its hind legs and its tail, that it may look around, and watch for the approach of the hunters; for hunting the Kangaroo is a favourite sport in Australia. The largest variety of this animal is five feet in length, without including the tail, which is about three feet more. The female Kangaroo has a pouch, in which she carries her young. They are active little creatures, and when they want exercise they jump out of their mother's pouch, and then, when they are either tired or frightened, they immediately return to it.

No. 55.

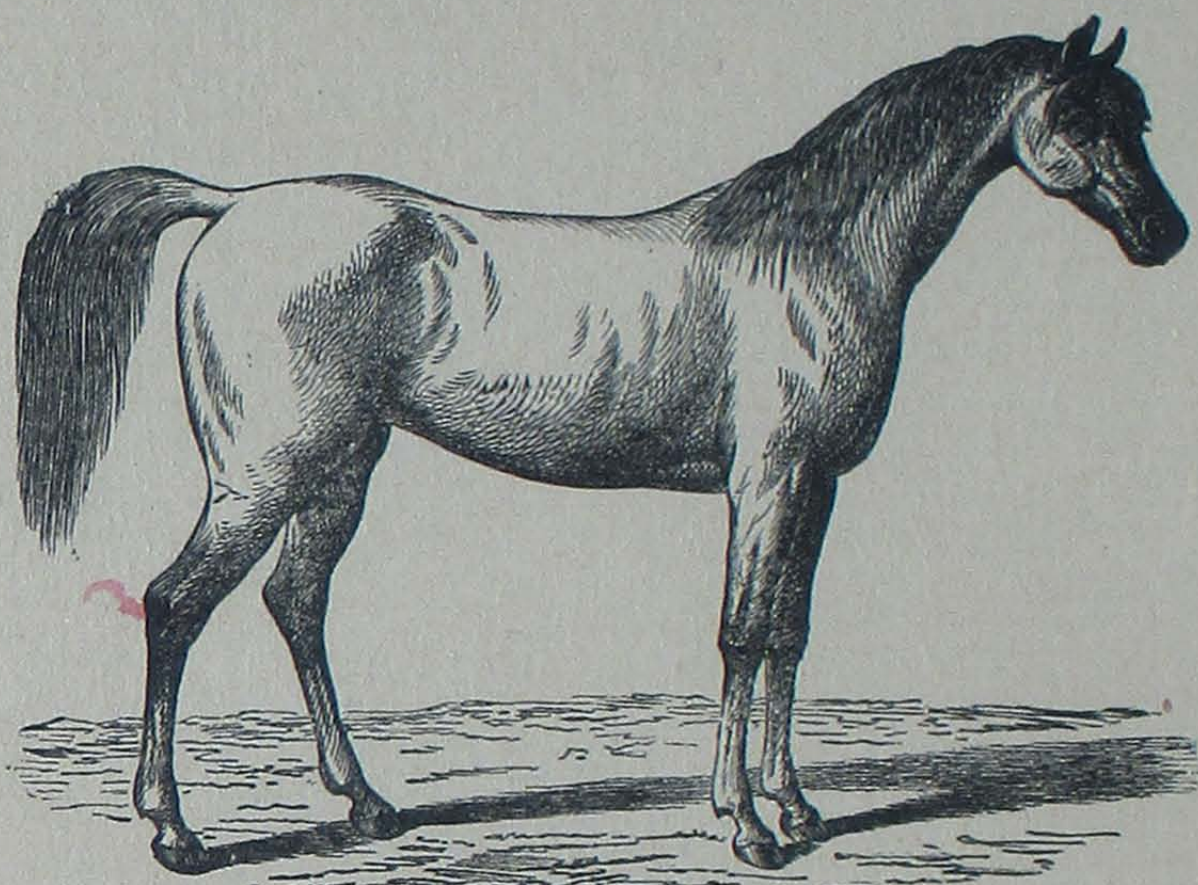
## THE HORSE.

HERE the Horse is brought before us as we are accustomed to see him when he is out of harness, and free to roam about at his own pleasure. He is a creature no less distinguished by his intelligence than by his beauty of form, his strength, patience, spirit, and general usefulness. So wonderful is his memory, that the Horse very rarely forgets any place in which he may once have been, or any road along which he once may have travelled. He is a very clean animal also, and very properly particular about the cleanliness of his food. The Horse, too, very soon learns to be attached



No. 54.—THE KANGAROO.





No. 55.—THE HORSE.

to his master, and to those who treat him well. There are many varieties of this noble animal, each of them especially suited for some particular service that he may render to his masters.

No. 56.

### THE ZEBRA.

THIS beautiful animal, unlike the Horse, is very wild, and difficult to tame. It is a native of South Africa, and is nearly related to the tame and patient creature that we know so well in our own country, the Ass, or Donkey; indeed, the Zebra may be

said to be a striped wild Ass, which is found only in one region of the world.

No. 57.

### THE ASS.

IN England the Ass, or Donkey, is really a beast of burden—a great deal of work, with little or no play, is his usual lot. This kind of life makes the Ass dull and obstinate; but, when well fed and well treated, he becomes both spirited and tractable. In Eastern countries, where the Ass is wild, his nature is very different from what it generally is

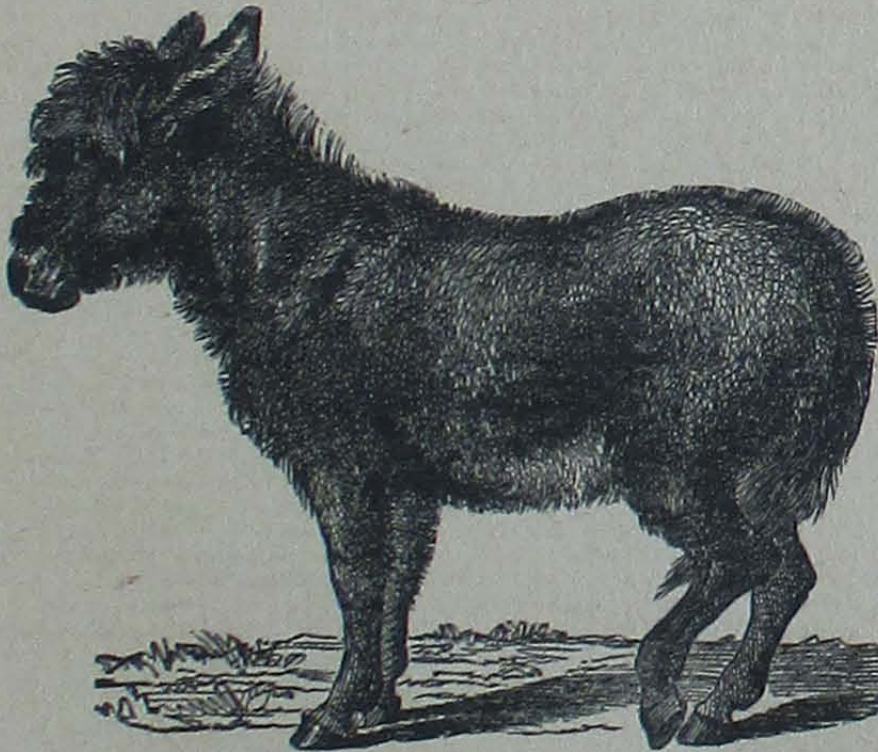




No. 56.—THE ZEBRA.

with us; there his shape is beautiful, his coat is smooth, and he runs with the greatest swiftness. In the Bible we always find the Ass mentioned as an animal holding very much the

same position as the more noble-looking Horse does amongst ourselves; in fact, in those countries the Ass is valued according to his real worth. In the East white Asses



No. 57.—THE ASS.



are most admired, and they are considered worthy to carry persons of the highest rank: thus, we have heard how our own Princess of Wales rode a beautiful white donkey when she was in Egypt. Large herds of Asses are found in Persia, where their flesh is considered very good eating. To us the idea of making a dinner of *donkey* sounds very strange; but the Persians think differently, and so they hunt the wild Asses, and when they catch them they eat them.

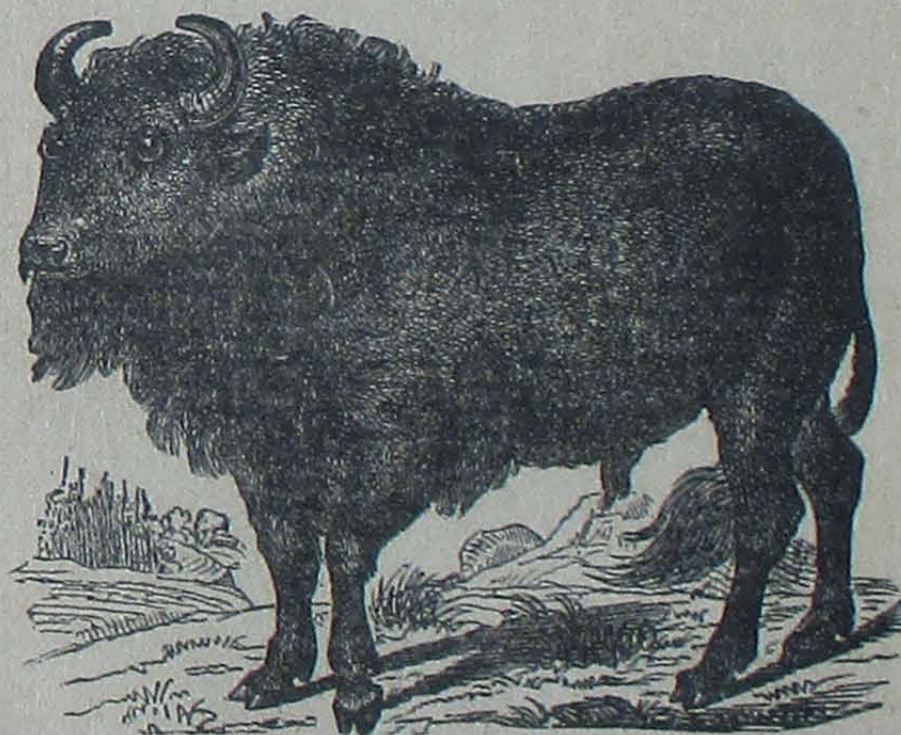
No. 58.

### THE BUFFALO.

THIS large, heavy, and very powerful animal, is found both in Asia

and Africa, the one in our picture being a native of Asia, where, when in his wild state, he will attack even the tiger without fear. Buffaloes enjoy even the hottest days of an Indian summer; and they delight to stand in the muddy water of the marshes, basking in heat that would be fatal to other creatures. Buffaloes are tamed in India, and used to drag all kinds of carriages.

This animal—like all oxen, sheep, goats, and deer, and also like camels and giraffes—*chews the cud*, that is, it has a peculiar kind of stomach which receives the food when eaten, and then after several hours sends it back into the mouth to be chewed over again.



No. 58.—THE BUFFALO.



No. 59.

## THE BISON.

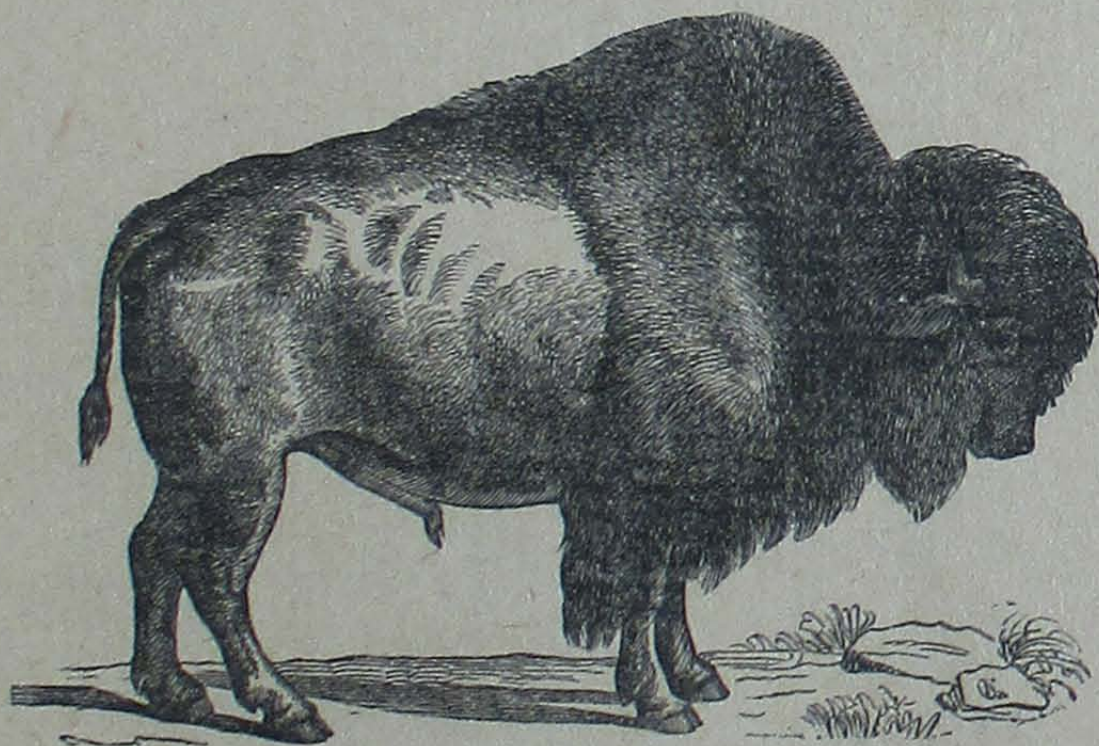
THE large plains or prairies of North America are the home of the Bison. It is a very ferocious and terrible creature in its look, with its mass of hair and fiercely gleaming eyes. Its head is so placed as to make it natural to the Bison always to hold it low down; and although this rather adds to its formidable appearance, it makes its capture more easy, for the Bison charges its enemy in a straight line, its head lowered. The trained horses of the native hunters are prepared for this, and swerve quickly to one side, whilst their riders shoot their light but deadly arrows deep into the Bison's body. This

creature's skin is of great value; its flesh also is considered good food, and particularly the hump.

No. 60.

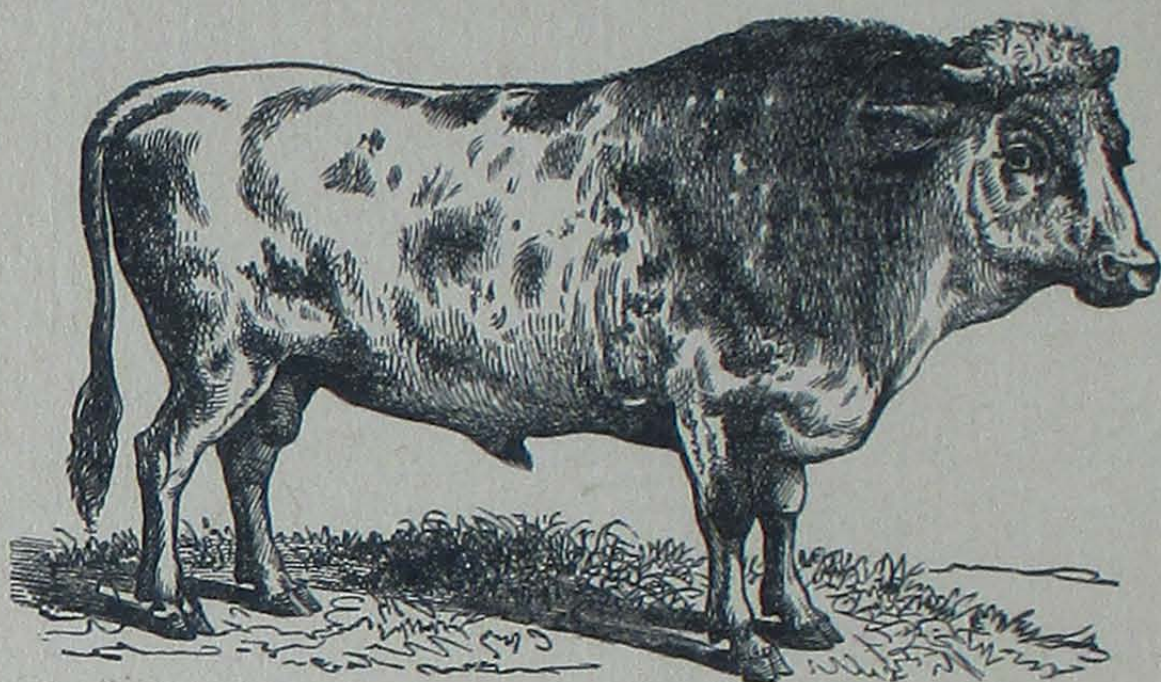
## THE BULL.

AGAIN we come to an animal well known to us all, and of which different kinds are to be found in almost all countries. The Bull, Bullock, Ox, and Cow, are important members of our English farm-yards, and of the greatest use to us in their different ways. In olden times the amusement of bull-baiting was common in England—a most cruel practice. The bull was fastened to an iron ring fixed in the ground, and dogs set at it, till the poor creature was



No. 59.—THE BISON.





No. 60.—THE BULL.

nearly maddened, and at last mangled to death. Bull-fighting is still a very popular "sport" in Spain. Every part of the Bull, or Ox, is of use to us. Its skin, flesh, horns, hoofs, and even bones, we have learnt to value very much. The Ox is used in some parts of England to drag the plough.

green fields, tell plainly that we consider these creatures worth a great deal of our care and attention. A very curious kind of Sheep is found in Syria and Egypt, whose tail is so long that it trails on the ground; there is a mass of fat at the end of this long tail, which is thought a

No. 61.

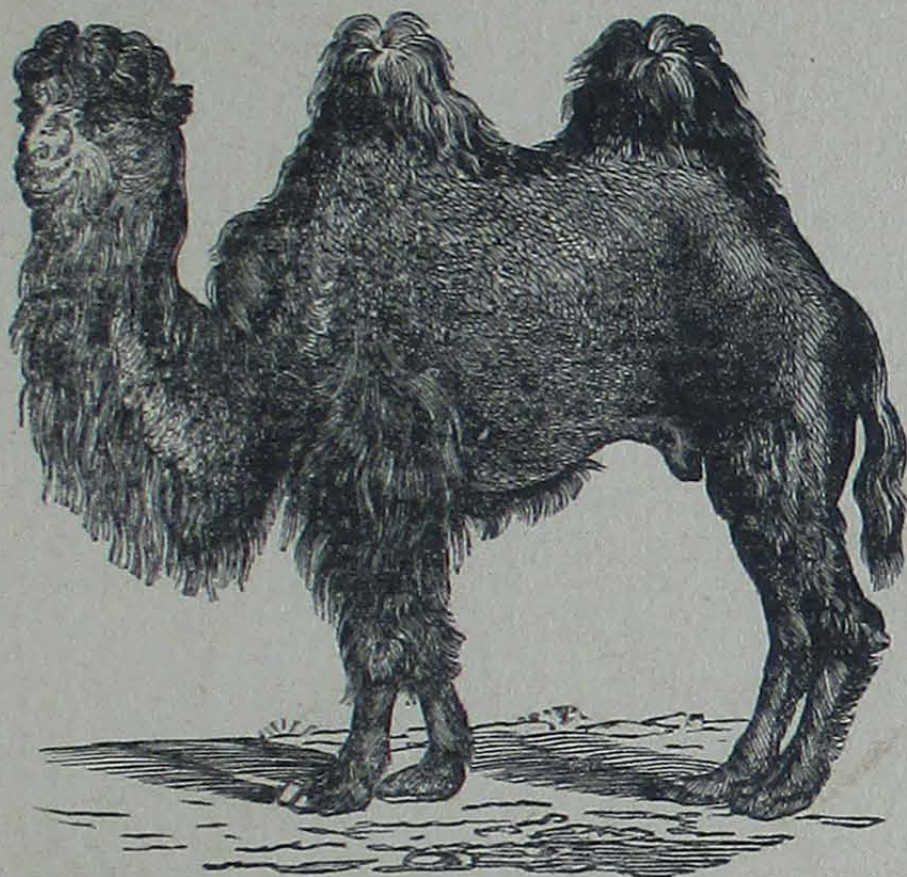
### THE RAM.

THE curly horns of the Ram enable us without any trouble to distinguish it from its very gentle and useful sister, the Sheep, which we know so well. The fleecy coats of Rams and Sheep are indeed treasures to us; and into whatever parts of our own country we may go, the flocks of sheep, like large white spots in our



No. 61.—THE RAM.





No. 62.—THE DROMEDARY.

great delicacy, and to prevent the sheep injuring this by dragging it along, a board is fastened under it, sometimes with wheels, like a little truck.

No. 62.

### THE DROMEDARY.

THE best breed of camels are the Dromedaries. They are smaller than the Arabian camels, and can do more work. They have two humps, and are found in Central Asia, Thibet, and China. The feet of both Camels and Dromedaries are exactly suited for walking on the

loose sand of the deserts, having large elastic pads which spread out when the foot touches the ground; and so these creatures are well called "the ships of the desert."

The Dromedary always kneels down to be loaded, or to rest itself, and has on its chest and the joints of its legs thick and hard lumps, which protect it from injury. Dromedaries do not like going up or down hill; but on the flat ground of their native deserts they go on and on with wonderful endurance. At night, when the Arabs are sitting round their fire, the Dromedaries may be seen kneeling behind them, with their long



necks stretched out to get a taste of the heat, which small indulgence their patient hard-working life most certainly deserves.

No. 63.

### THE RED DEER OR STAG.

IN many of the magnificent parks in England, the herds of deer that

wander about under the wide spreading trees, or crouch down in the masses of green fern, cannot fail to claim our notice and admiration, though these beautiful creatures are not so numerous as once they were. The Red Deer is the largest kind, so called for the reddish-brown colour of its coat. All male deer have horns, and shed them every year. The growth of the new horns is most



No. 63.—THE RED DEER OR STAG.



curious. On the sort of lump upon which the horns rest comes a skin, called the "velvet," filled with arteries; these arteries gradually form layers of bone, and as the horns grow so the velvet grows also; when the horns reach their full size, the velvet dries up, and is rubbed off by the deer against the trees.

Stag-hunting is a favourite English amusement, the dogs trained for it being called staghounds.

instance, in Syria and in Switzerland, the Goat is almost as much prized as the Cow is with us. Goats are very good climbers, and thus they can make very daring excursions in their mountainous Swiss home. The Cashmere Goat is the most celebrated, because of the beautiful shawls that are made from its fine wool; these shawls are much valued in the country of Cashmere, and in Europe they are of very great price and very highly esteemed.

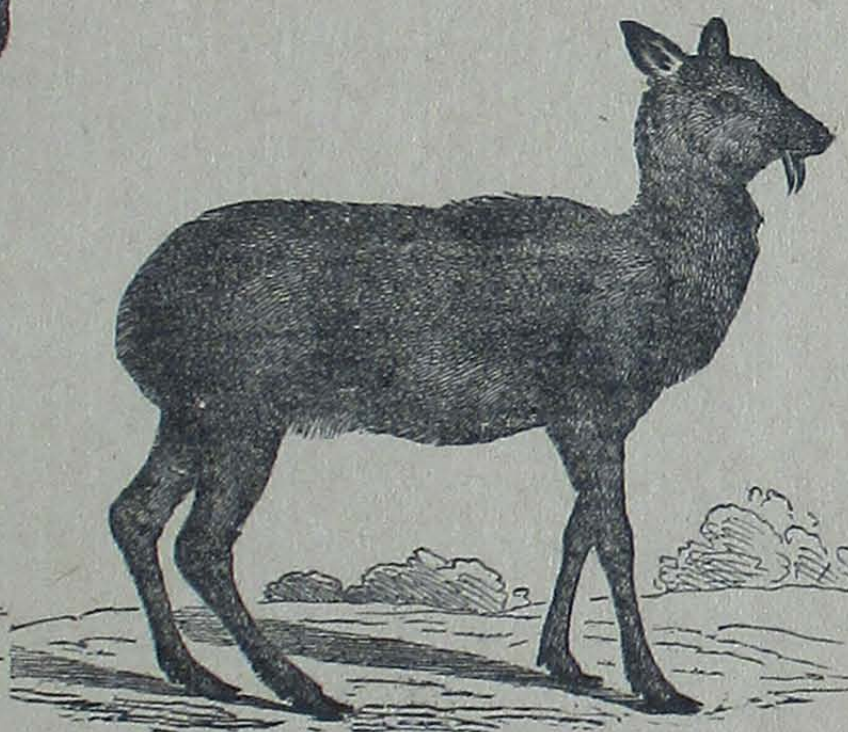


No. 64.—THE GOAT.

No. 64.

## THE GOAT.

ALTHOUGH the Goat is of some use to us, it is not of nearly as great value in England as in other countries; for



No. 65.—THE MUSK DEER.

No. 65.

## THE MUSK DEER.

THERE are two peculiarities in the Musk Deer. The male has two very long upper teeth, having a tusk-like



appearance, and these teeth distinguish it at once from other deer; it also has a curious scent, hidden in a kind of pouch, which gives it its name of *Musk* deer. This scent is very valuable, and is a regular article of trade in the East. When the hunters kill the animal, they have to extract the scent-pouch with great care, as the perfume is so overpoweringly strong that, unless they covered their mouths and nostrils, they would not be able to endure it. The Musk Deer is a small creature, about two feet in height at the shoulder. It is found in India.

No. 66.

## THE MOOSE.

THE personal appearance of the Moose is certainly far from attractive; its very long projecting muzzle gives it a most peculiar expression. It is found in Northern Europe and America, and is supposed to be the same creature as the elk. It moves awkwardly, at a sort of high trot, and makes a great noise with its hoofs. It is the largest of the deer tribe, having been found seven feet high at the shoulders. Its colour is dark brown, and it has large heavy horns,



No. 66.—THE MOOSE.



usually much larger than those that are shown in our picture. The Moose is a very strong animal, and quite capable of killing a wolf with a single blow of its horns. It is fond of the water, and is a very good swimmer. When irritated, the Moose is no trifling antagonist, as it fights with great desperation, using its hoofs as well as its horns.

and Spitzbergen. There is scarcely any limit to the useful qualities of the Reindeer. It furnishes its master with food and clothing; and when harnessed to a sledge can drag a considerable weight, going at the pace of ten miles an hour. Its hoofs are divided very high up, so that when the creature walks the hoof spreads out, and in raising its feet the hoof closes



No. 67.—THE REINDEER.

No. 67.

## THE REINDEER.

WE must travel to the extreme north of Europe, Asia, and America, to find the Reindeer in his arctic home, the finest animals being those in Lapland

again, making a snapping noise. In winter time the Reindeer's coat gets much thicker, and turns almost white. A kind of moss, which grows under the snow in great quantities in Lapland and arctic countries, is the Reindeer's food. A rich Laplander owns about four hundred of these deer,



quite enough property to enable him to live in comfort. His poorer neighbours, possessing not more than fifty deer, join with some richer man's herd, giving labour in exchange for the care which their reindeer share with the herd.

No. 68.

### THE GUANACO.

IN the most southern part of South America the Guanaco lives. It is very like the llama in its appearance and nature. It is reddish-brown in colour, excepting its hind-legs and ears, which are grey. The Guanaco goes about in herds, from ten to forty in number, and it resembles the Sheep



No. 68.—THE GUANACO.

in some of its habits; for instance, one of its number is chosen as leader, and all the others obey this leader implicitly, so that if he is lost, all order disappears immediately, and the bewildered Guanacos are easily caught by the hunters. This creature is very wary and very inquisitive, and has not the best of tempers. Like the llama, it has a bad habit of spitting at offenders. It is a sure-footed animal, and a good swimmer.

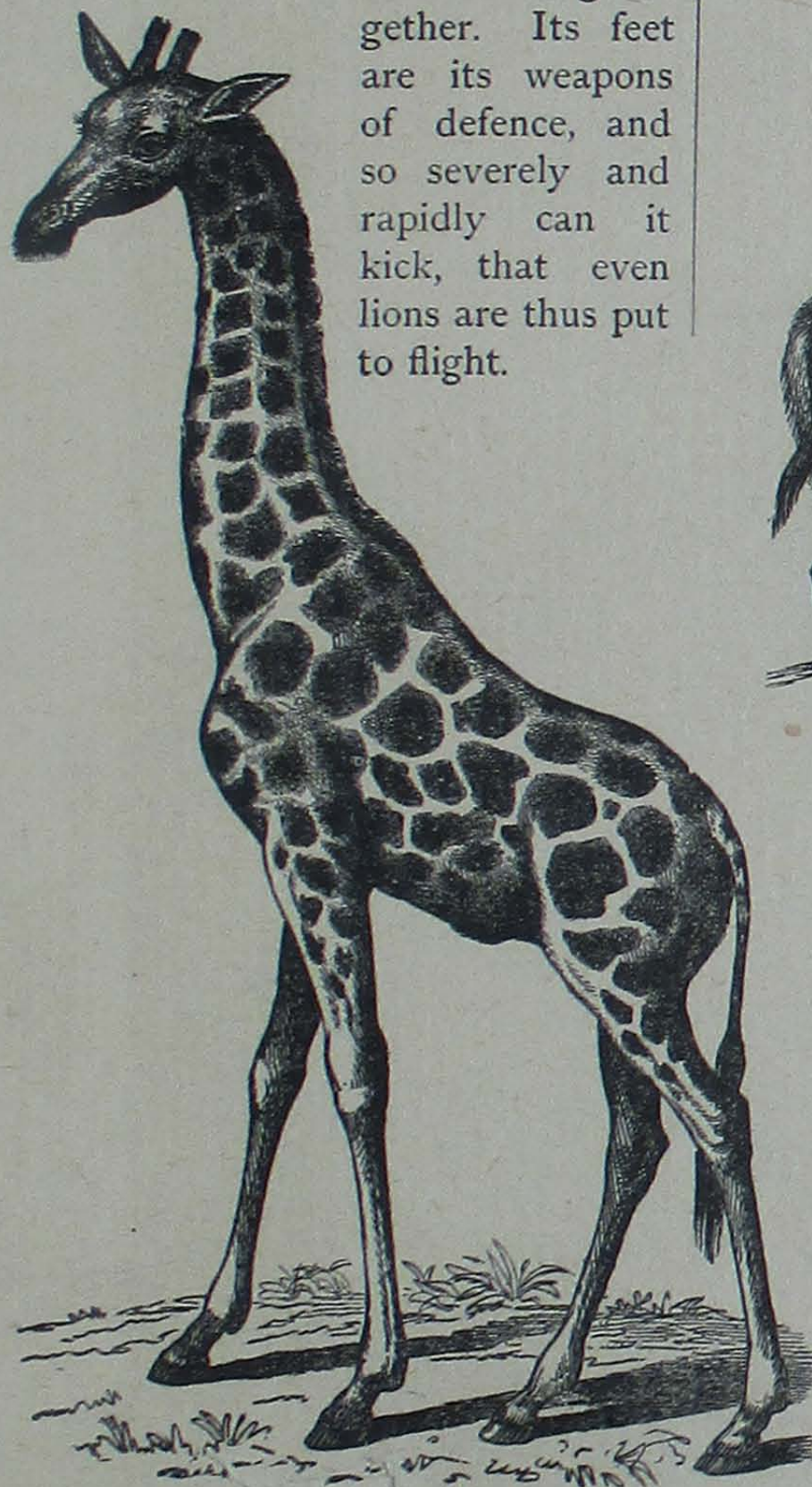
No. 69.

### THE GIRAFFE.

THE Giraffe is only found in South Africa. It is a truly beautiful and wonderful creature, and stands alone amongst animals, there being no varieties of its kind. Its height is from thirteen to eighteen feet; its neck is very long, and it has a long flexible tongue. The movements of the Giraffe when feeding are most graceful, it daintily picks a leaf at a time from the top branches of the groves of acacia trees which abound in its native land. It has two projections like horns on its head, with a tuft of black hair at the end of each. Its eyes are so large and prominent that it can see on all



sides without turning its head. The Giraffe moves very swiftly and in a peculiar manner, the limbs of each side moving together. Its feet are its weapons of defence, and so severely and rapidly can it kick, that even lions are thus put to flight.



No. 69.—THE GIRAFFE.

No. 70.

## THE GAZELLE.



No. 70.—THE GAZELLE.

THIS graceful little animal inhabits Arabia and Syria. It is only about one foot nine inches high, and is of a yellowish-brown colour, getting white underneath. It is often tamed, and may be seen in many Syrian houses, claiming admiration and kind treatment with its large, dark, lustrous eyes. The poets of the East never weary of singing the praises of the beauty and gentleness of the Gazelle.



So great is its swiftness that it outruns the greyhound, and hawks are trained to dash at its head and confuse it, so that its speed is checked, and the dogs have a chance of overtaking it. It is also caught by being driven in herds through large gaps into a deep ditch below.

No. 71.

### THE IBEX.



No. 71.—THE IBEX.

THE beautiful horns of the Ibex make it very easy for us to know their owner. These horns are often three feet long, and very strong, being marked regularly with thick rings. Hunting the Ibex is a difficult and dangerous undertaking. Like other

wary animals, the Ibex posts one of its number as sentry, whose duty it is to give a sort of whistle as a signal of danger, and then off dash the whole herd to the very highest point in their Alpine mountains that they can find. In our picture the Ibex looks as if he had just bounded to one of those high points and felt himself in perfect safety. The Ibex will lead its pursuer over most dangerous places, rocks, and chasms, and then turn on him; and, unless the hunter is quick in shooting him, those beautiful horns are lowered, and, with a furious butt, the hunter is hurled over the precipice.

No. 72.

### THE CHAMOIS.

THE Chamois also has its home among the Alpine mountains, and is



No. 72.—THE CHAMOIS.



most wonderfully active and agile. It lives on the loftiest ridges, and finds a sure footing in places that seem quite inaccessible. The chamois hunters have even more dangers to face than those who hunt the Ibex. It would be impossible to describe the hardships and terrible risks they undergo. The skin of the Chamois makes beautifully soft leather.

No. 73.

### THE ROEBUCK.

THE Roebuck is now only found in Scotland. It is the smallest kind of British deer, being only two feet high, and is a very beautiful little creature; it is not at all of a sociable nature, and cannot be tamed. In-



No. 73.—THE ROEBUCK.

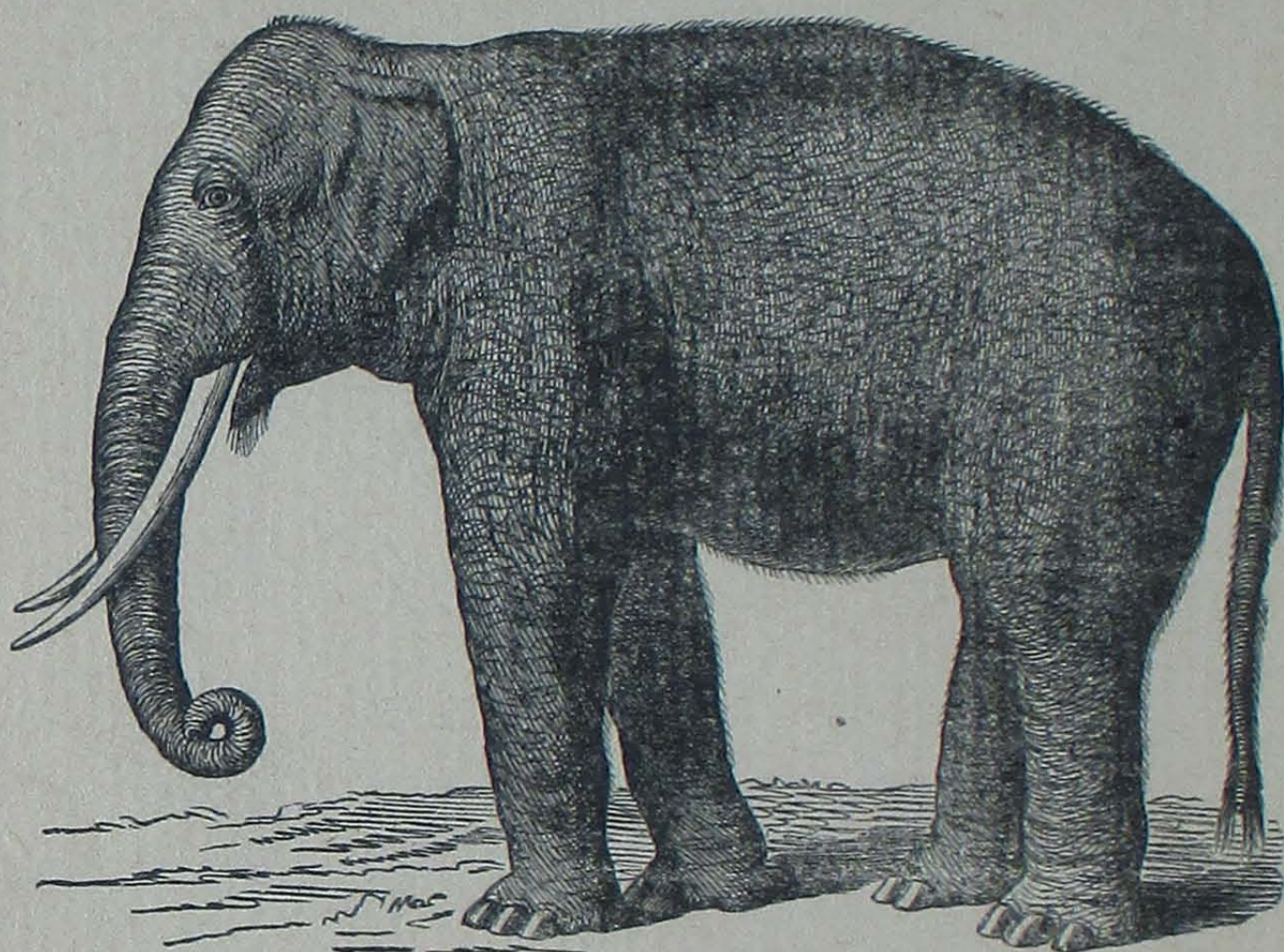
stead of going about in herds, it prefers living alone, or only in pairs. It carries this solitary taste so far as even to drive away its young to shift for themselves as soon as they are about ten months old. Its horns are about a foot long, and are divided into three small branches.

No. 74.

### THE ELEPHANT.

THE Elephant is found in Africa and India, where this mighty creature wanders about in herds. The neck of the Elephant is short and thick, and is evidently so made to support its heavy head and tusks; this short neck causes the Elephant to be unable to lower its head to the ground, and in order to make up for this, the Elephant has a long trunk, so formed that it can draw up water through it, and so fine at the end that it can pick up the smallest things. When the Elephant is thirsty it draws up a quantity of water, and then curls round its trunk into its mouth, so that it can pour the water down its throat. The tusks and teeth of the Elephant are very valuable, and make beautiful ivory. The Elephant eats branches, leaves, and roots of trees, and also different kinds of bulbs, for which it digs with its tusks; it is also very fond of sugar,





No. 74.—THE ELEPHANT.

in which taste the sugar-canes of India enable it to indulge. The Indian Elephants are used in tiger-hunting, and are trained on purpose. The Elephant is the most sagacious of animals, and when tamed, and kindly treated, is very gentle, docile, and affectionate; but it will always revenge itself on those who ill-treat or wantonly provoke it.

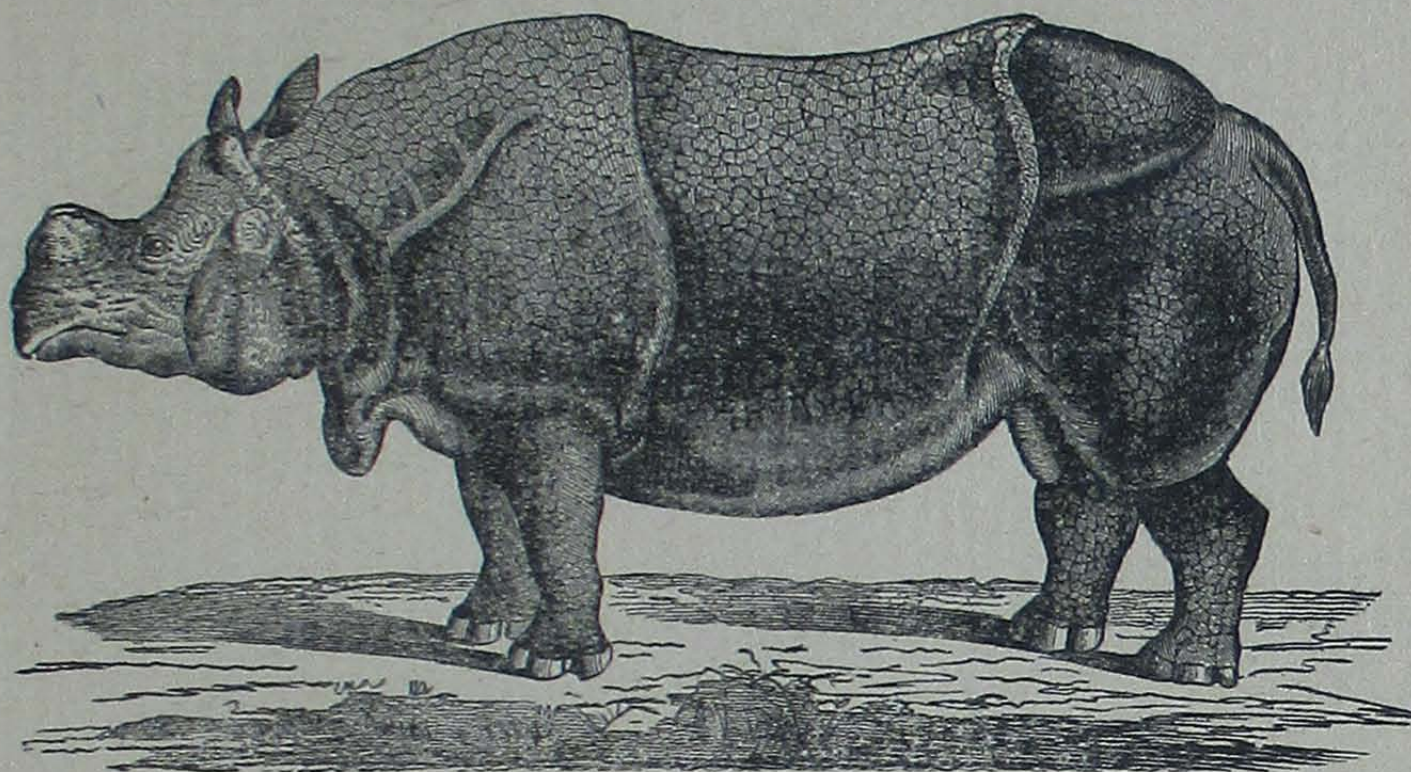
No. 75.

## THE RHINOCEROS.

A FITTING companion to the Elephant is the Rhinoceros. It is a

very large and formidable, as well as formidable-looking, animal. There appear to be six different varieties, four of which are found in South Africa: the Black Rhinoceros, the Two-horned Black Rhinoceros, the Common White Rhinoceros, and the Long-horned White Rhinoceros. Both kinds of the Black Rhinoceros are very fierce, and have fits of passion, when they will rush at any object in their way, and trample it to pieces. The Indian Rhinoceros has its thick hide arranged in folds, so hard that a common bullet cannot penetrate very far into it, and bullets have to be





No. 75.—THE RHINOCEROS.

hardened on purpose. The eyes of the Rhinoceros are very small, and not very quick-sighted. In the day-time this creature may be found lying asleep, or standing lazily under the shelter of the trees. It likes rolling in the mud. It feeds on grass, and usually seeks for water at night, at which time it is easiest and safest for hunters to attack it.

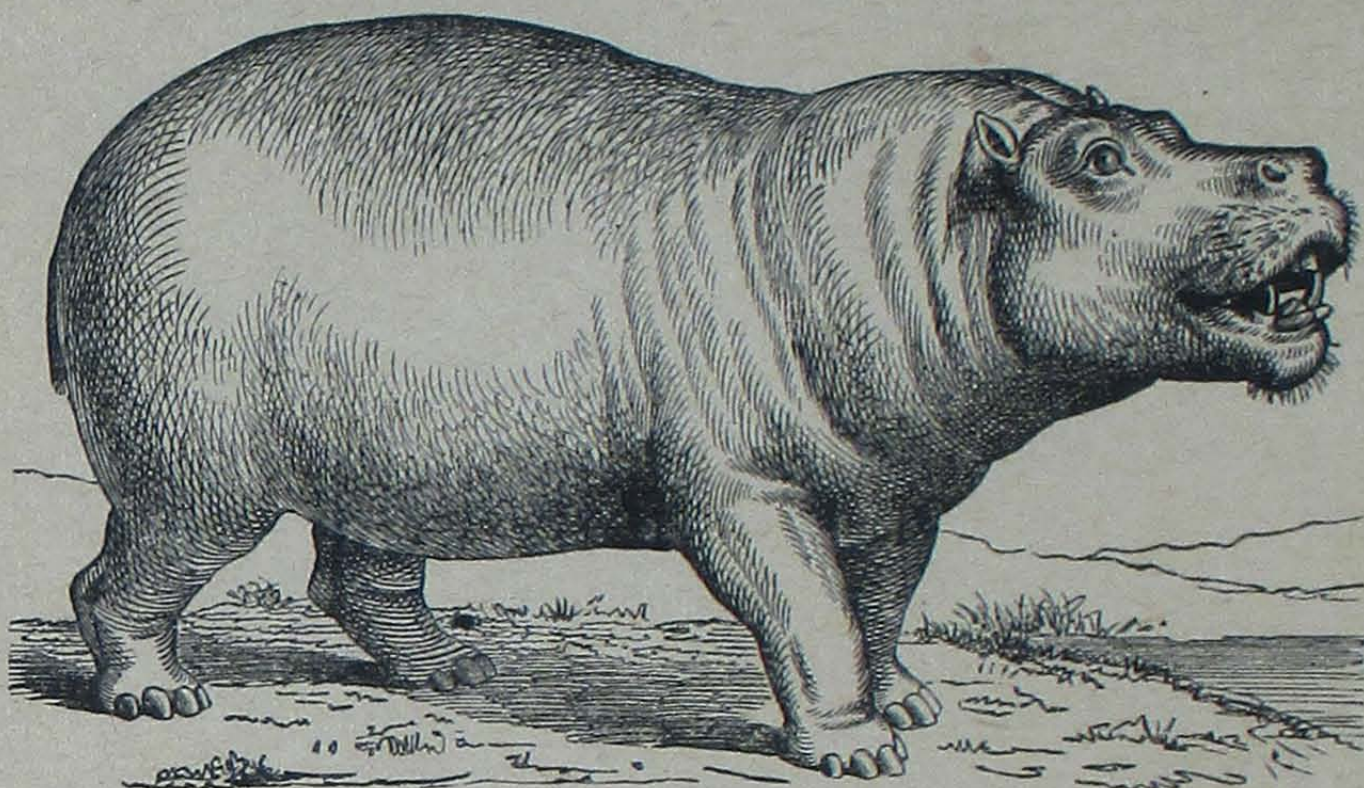
No. 76.

## THE HIPPOPOTAMUS.

WE must visit the banks of the rivers of Africa if we would see this great animal really *at home*, for it is found

only in that quarter of the world. The Hippopotamus (that long name means "River Horse") is a quiet and harmless animal, unless it is disturbed or threatened with danger. It lives partly in the water and partly on the land near the water, and its food is grass and vegetables of any kind. The flesh is fat, and good to eat; there is a layer of fat between the skin and the flesh, which the Dutch colonists salt carefully, and they call it "sea-cow's bacon;" the skin is very thick and strong. The eyes and nostrils of this animal are so placed that it can both see and breathe by raising its head only an inch or two above water.





No. 76.—THE HIPPOPOTAMUS.

No. 77.

## THE TAPIR.

AN inhabitant of South America, this singular animal delights to sleep during the day, and to spend its nights in searching for the vegetables which form its food ; it also is very fond of being in the water. It is

naturally gentle ; but as it has great strength, when attacked it is a dangerous enemy. You will observe that the Tapir, which is represented in our picture in his general appearance, is not unlike a Pig ; his snout, however, is much longer than that of any animal which belongs to the hog tribe.



No. 77.—THE TAPIR.

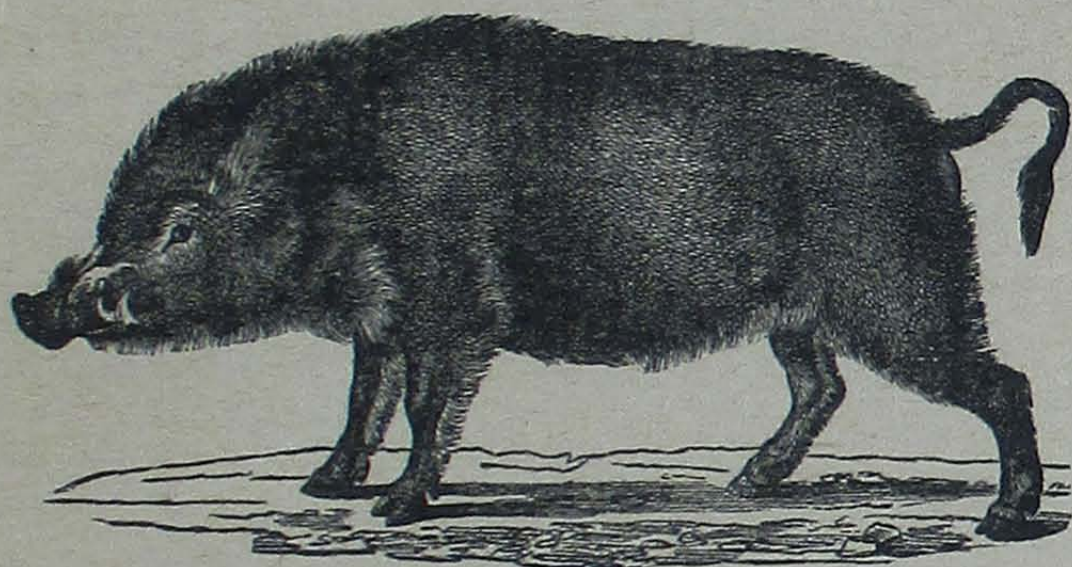


No. 78.

## THE WILD BOAR.

THE domestic Hog or Pig is no stranger in England, although the Wild Boar has been extinct here for many years. It is common in the forests of Germany; and hunting the Wild Boar is a favourite amusement. It is attended, however, with no little

danger to the hunters, on account of the strong and sharp tusks which curve outwards from the creature's jaw, and are sometimes ten inches long. Wild Boars grow to a very large size in India, and the horses ridden there by the hunters have been known to refuse to go near the enraged animals, knowing the terrible power of their sharp tusks



No. 78.—THE WILD BOAR.

## DOGS.

THE Dog family, we feel sure, is not less highly esteemed and respected by our youthful friends than very nearly all its members are by ourselves; so when now we are able to find room to give pictures only of six of our prime favourites, we feel bound to explain that we should gladly have introduced into our book very many more pictures of Dogs had it been possible for us to have found room for them. We would not have the Dogs themselves for a moment suspect us of neglecting them, or of failing to treat them with becoming respect; nor would we willingly lead our readers to imagine that there are only six kinds of Dogs for which we entertain a decided regard.

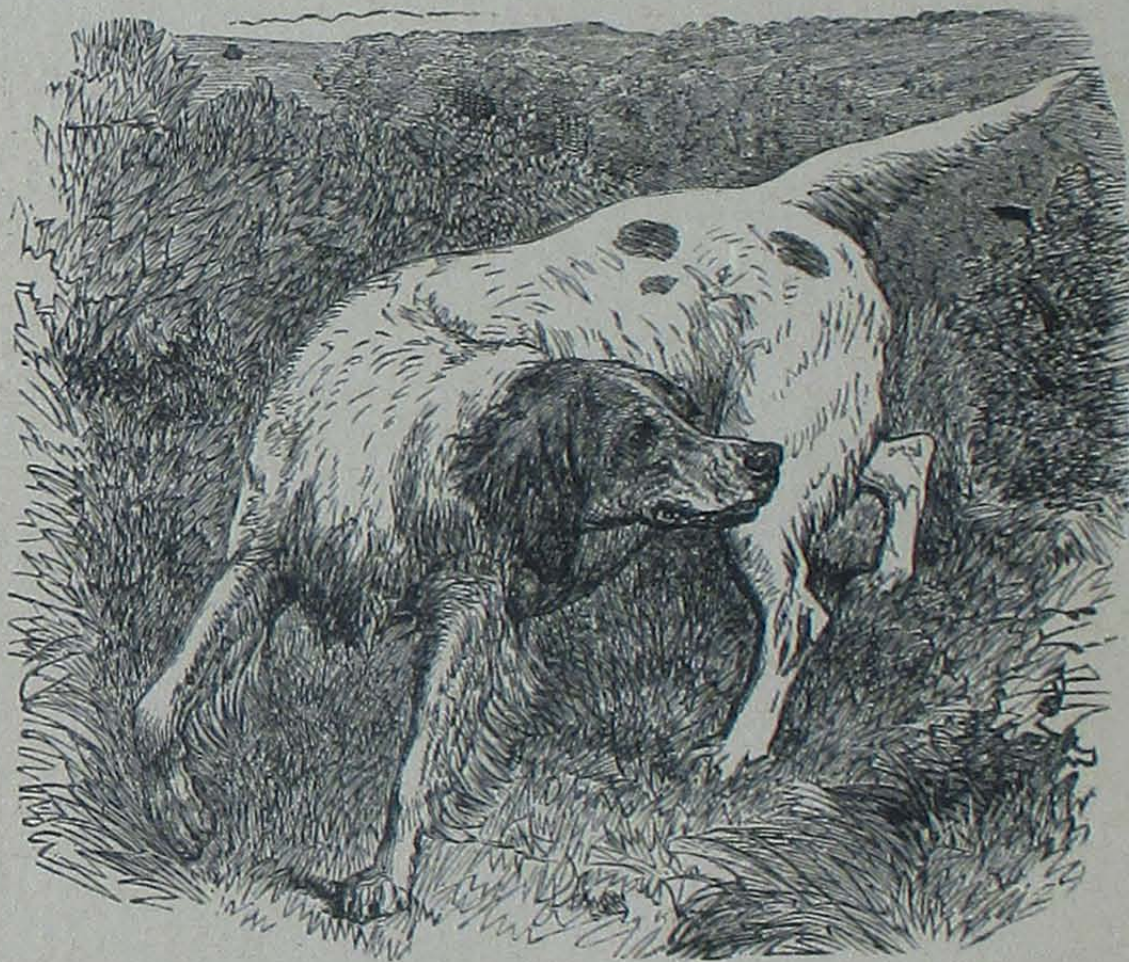


No. 79.

## THE SETTER.

BESIDES always being pleasant companions, and sometimes most useful ones, nearly all dogs have some particular qualities which distinguish in an especial manner each variety. Many varieties of dogs are of great

out where they are lying hid. He used to crouch down when he perceived the game; but now he is generally taught to stand still while he marks them down. Thus, in standing still and pointing to the game, the Setter imitates the Pointer. In our picture the Setter has just found some game.



No. 79.—THE SETTER.

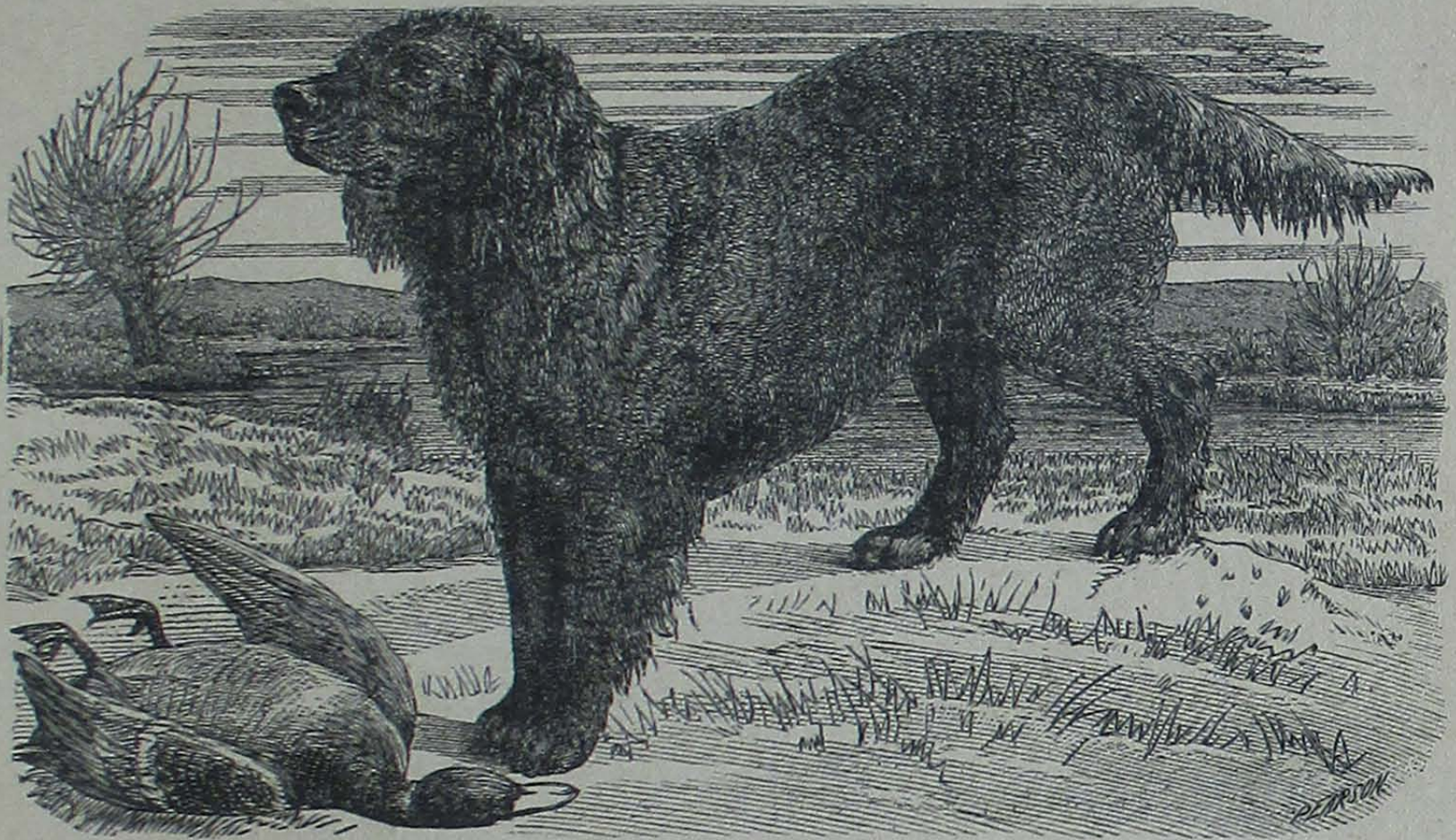
use to sportsmen; some for hunting, some for finding, and others for capturing game, and for bringing to their masters the creatures that they have captured. The Setter finds game by the scent, and he points

No. 80.

## THE RETRIEVER.

THIS dog has his name from his habit of finding, picking up, and bringing to his master, game that





No. 80.—THE RETRIEVER.

his master himself is not able to secure without such help as this, or, at any rate, without some help. This is called "retrieving." Our Retriever has just "retrieved" for his master a wild duck which, when shot, had fallen into the water.

Nos. 81 and 82.

## SPANIELS.

THERE are several varieties of Spaniels, and of them all it may be truly said that they deserve the high favour which they enjoy. They are famous sporting dogs; and, as

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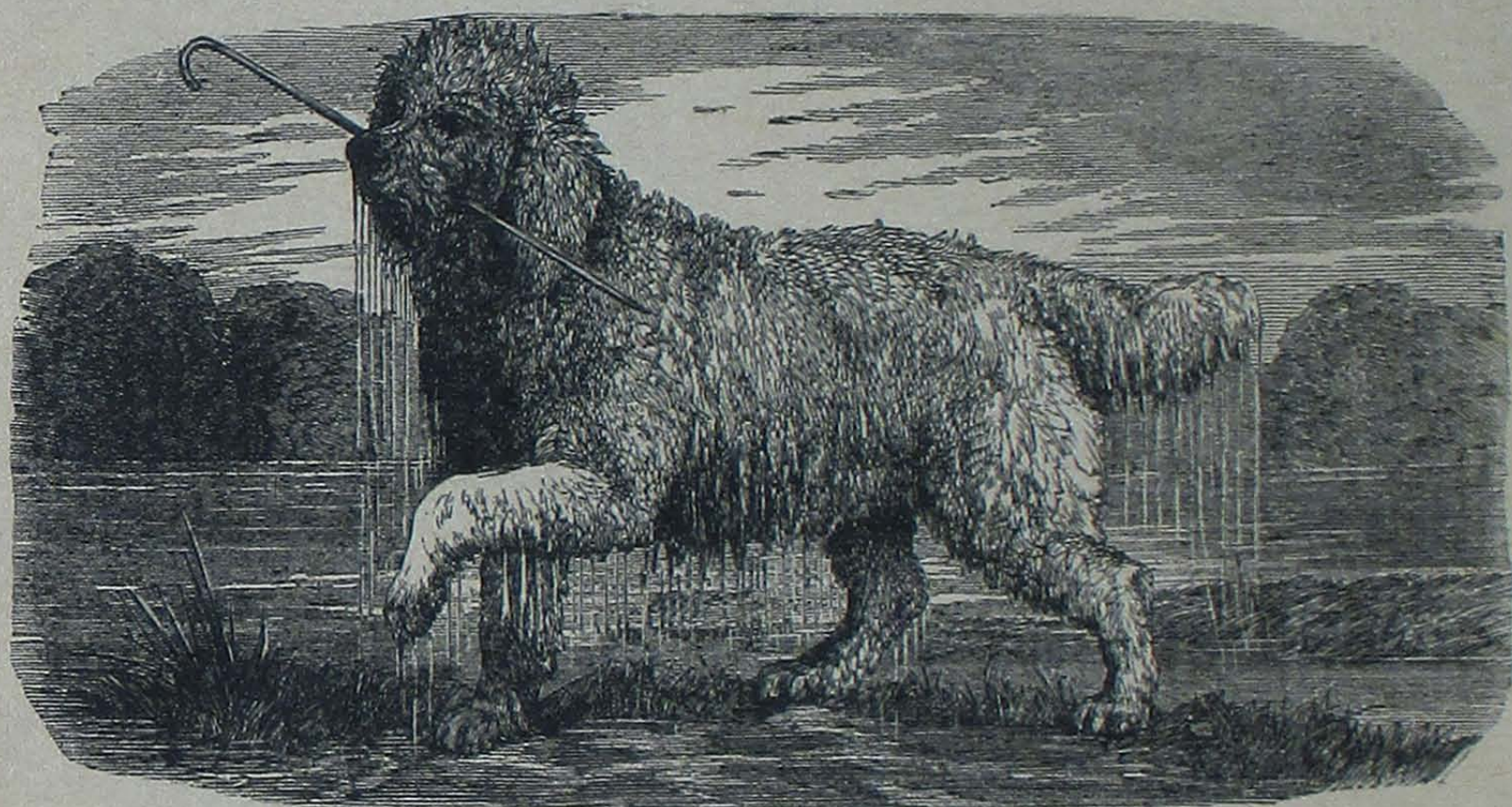
companions that can do almost everything, except enter into conversation, it would be difficult to find their superiors.

Some Spaniels are very fond of the water, and delight to rush into it that they may seize and bring out to their masters whatever floating things may have been thrown by them upon the water before their eyes: they are, accordingly, very properly called "Water Spaniels." Our Water Spaniel is bringing his master's walking-stick out of the water, and probably his master will throw it back again as soon as he has got it; but the dog



will not object to this, and indeed he appears both to expect and to desire it, as he stands, dripping wet, with his keen eyes watching his master's every movement, and with one of his fore-paws uplifted in readiness to dash away into the water again. When he has given the stick to his

land to pouncing upon sticks that are floating upon the water. These "Field Spaniels" have an intense love for game, and they are wonderfully quick and clever in their hunting. Some of them bark in a peculiar way when they have found any game, and they also have a different



No. 81.—THE WATER SPANIEL.

master, perhaps the dog may give himself a good shaking, in order to get rid of the weight of the water that has soaked his coat; if so, it is as well to get out of his way, for he will send the water in a little shower on every side of him.

No. 82 shows two Spaniels that prefer hunting for living game on

bark for different kinds of game. We well remember a delightfully clever Spaniel, one of the most agreeable of companions, that had a passion for finding squirrels. It lived in a part of Hampshire where there are large woods of very tall beech-trees, and also still larger plantations of larch-firs. The squirrels in the beech-





No. 82.—THE SPANIEL.

woods used to eat the young twigs at the tops of the larches, which they evidently found to be very tender and nice, and with a pleasant *larchy* taste; but this biting off the young twigs did great damage to the larches, so it was decided that the squirrels should be shot; and shot they were in surprising numbers, the spaniel delighting in this novel sport, finding the squirrels sometimes in the thick fern at the bottom of the trees, and sometimes high up in the branches, and always giving a very singular

shrill bark when they were found. Spaniels, we must add, are capital house dogs or domestic sentinels.

No. 83.

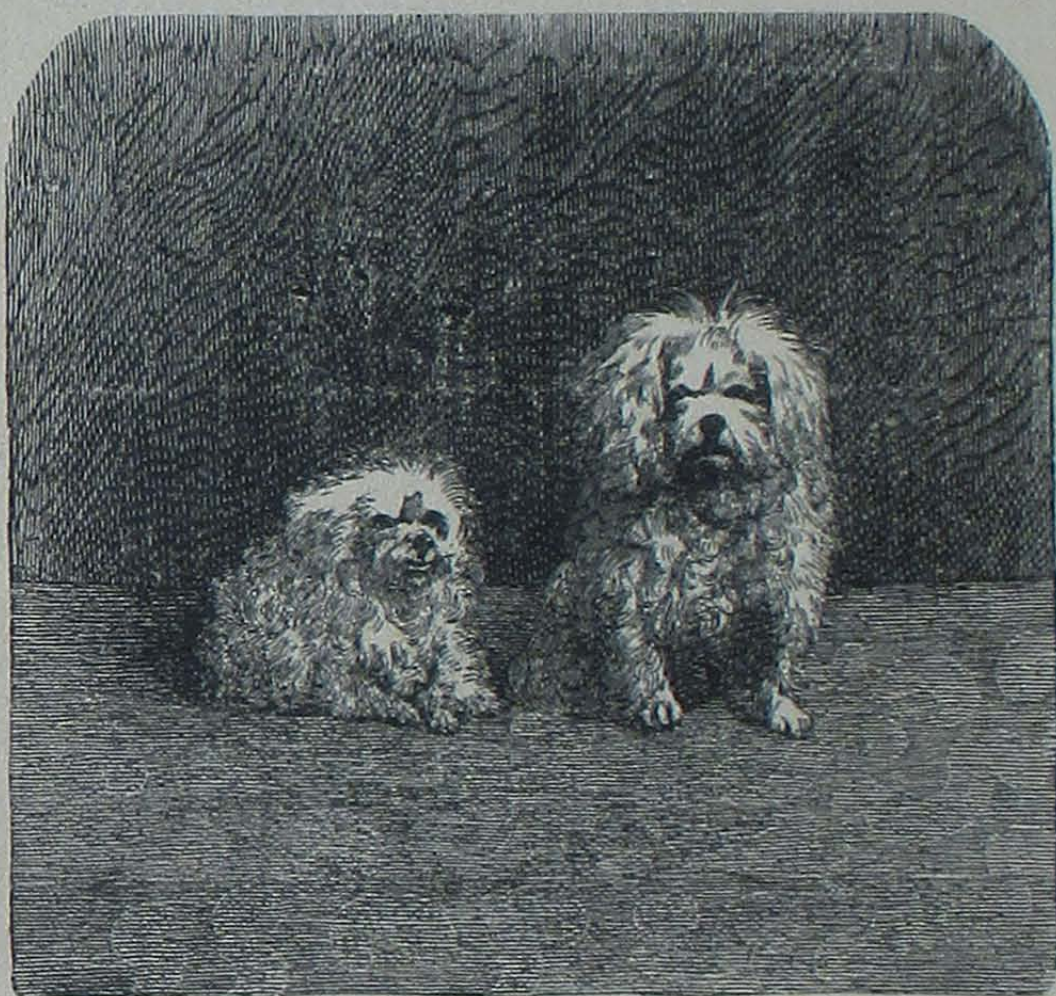
### MALTESE POODLES.

THESE are the prettiest and the most *pet-able* of all pet animals. They are tiny and delicate creatures, with long flossy silk-like hair, which is so abundant, that when they move rapidly—which they delight in doing—they



look more like bundles of streaming silk or fine wool with quicksilver inside them than like living creatures. They are lively and engaging in their ways, as well as singularly pretty.

common companion for the horses that were driven in carriages, and was to be constantly seen bounding along just in front of the horses, and so near to their fore-feet that it might



No. 83.—MALTESE POODLES.

No. 84.

### THE DALMATIAN OR COACH DOG.

IN shape this dog is very like our English pointer; but in colour it is white, thickly sprinkled over with small black spots. It used to be a

have been expected that it would have been struck at every step taken by them: it was quite safe, however, notwithstanding its apparent danger.

This dog now is by no means common—like so many other things, it seems to have gone out of fashion.

Of the other dogs that we are not able to describe more fully, or to



represent in pictures, some of the best known and the most valuable are the noble and sagacious Newfoundland; the Saint Bernard, a truly magnificent creature, with an instinct that is equally wonderful and excellent; the Greyhound, the Foxhound, the Staghound, the Harrier, and the Beagle, all of them dear to hunters, and sad enemies to creatures that are

hunted; the Bloodhound is also a somewhat noble animal; then there are the Mastiffs, Bulldogs, and Lurchers, which have not so good a reputation as some of the same family; Terriers of every kind and rank, English and Scottish, rough and smooth; and, though last, far from least, the faithful, vigilant, careful Shepherd's Dog.



No. 84.—THE DALMATIAN OR COACH DOG.



## DIVISION I.—ZOOLOGY.

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### PART II.—MARINE ANIMALS.

THE small group of Animals described in this Second Part of our First Division consists of creatures which, while in many respects they resemble fish, have certain qualities that distinguish them from those inhabitants of the waters.

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No. 85.

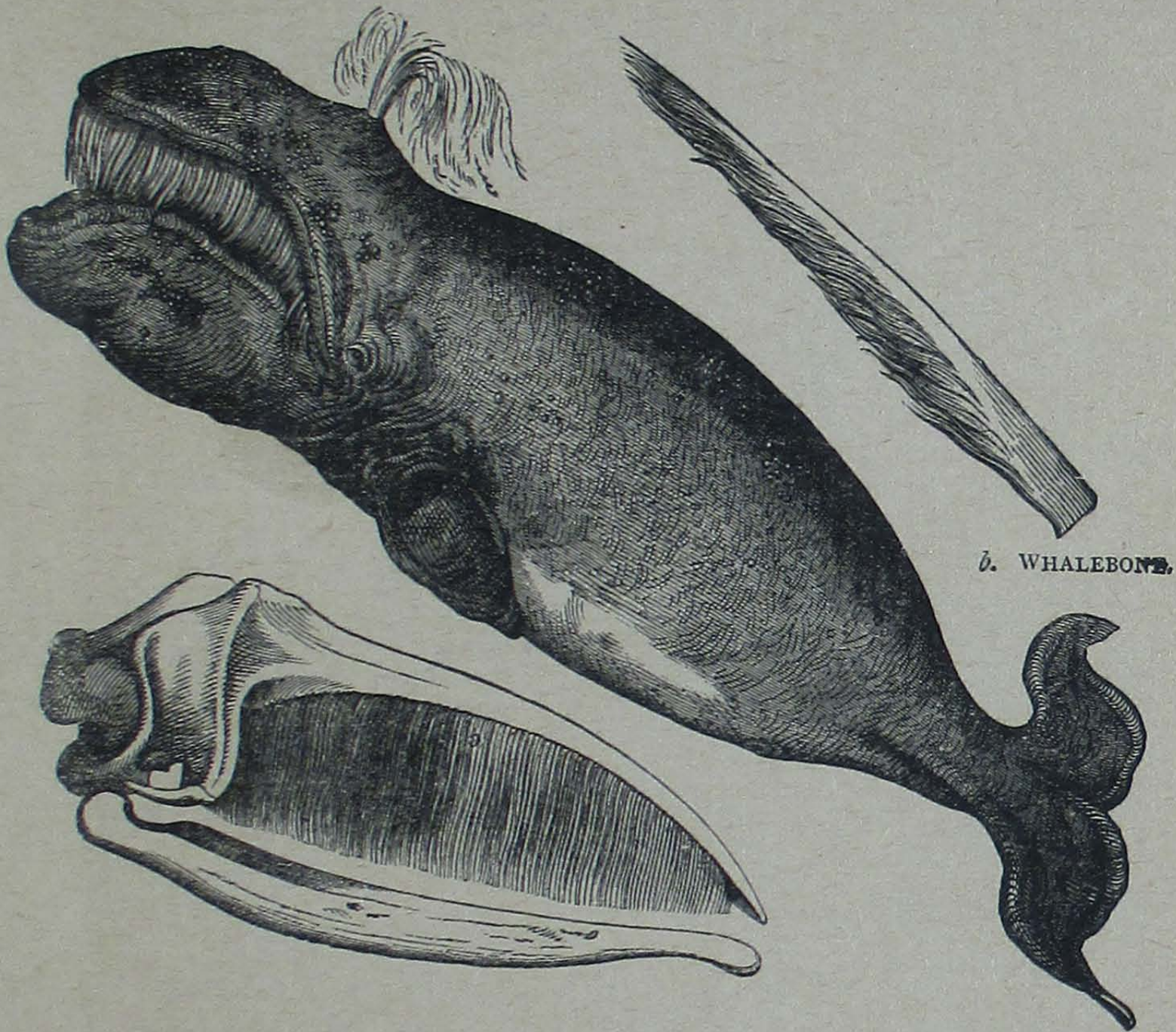
#### THE WHALE.

THE home of this huge creature is the great ocean, and yet it cannot rightly be called a fish, because, unlike all real members of the race of fishes, the Whale has warm blood, and therefore, in order to preserve its life, it is necessary for the Whale to breathe the air like animals which live upon the land. Thus, of this, the largest of known living creatures, it may be

said that it lives partly *in* the waters of the sea, and partly *upon* the surface of them. The Whale, however, is provided by Nature with the means for diving to a very great depth in the sea, and also for remaining under water much longer than all other animals that have warm blood.

You will observe that the Whale has an enormous head ; a mouth like a great cave ; eyes so small that they are like two tiny spots ; and, in place of fins, a pair of flippers, which are





a. JAWS OF THE WHALE

b. WHALEBONE.

No. 85.—THE WHALE.



No. 86.—THE DOLPHIN.



something like fore-legs. It also has an immense tail; and in the upper part of its head its nostrils are placed, through which it blows the sea-water like two tall fountains, into the air. Notwithstanding its own vast size, the Whale feeds on very small fish of a peculiar class, called *Mollusca*, which are not more than an inch and a half long, while the Whale in length is often not less than seventy feet. In order to catch its little prey, the Whale rushes through the water with its mouth open, and thus it holds a shoal of the mollusca within its mighty jaws, *a*. The upper jaw is furnished with a deep fringe, of the curious substance called whalebone, *b*, and within this fringe the mollusca are kept fast when the Whale shuts its mouth again. The throat of this wonderful creature, unlike its mouth, but like its prey, is very small. Whales are captured and killed in great numbers in the arctic oceans for the sake of their whalebone and of the oil that is obtained, in astonishing quantities, from the "blubber."

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No. 86.

### THE DOLPHIN.

THE Dolphin, which has a black back, and is white underneath, is from six to ten feet in length. It has fins, and

accordingly is more like a fish than a Whale is; yet, in other respects, it is so like its gigantic cousin that the Dolphin may be said to be a small Whale with a sharp nose, without whalebone, and which feeds on animals that live in the mud at the bottom of the sea.

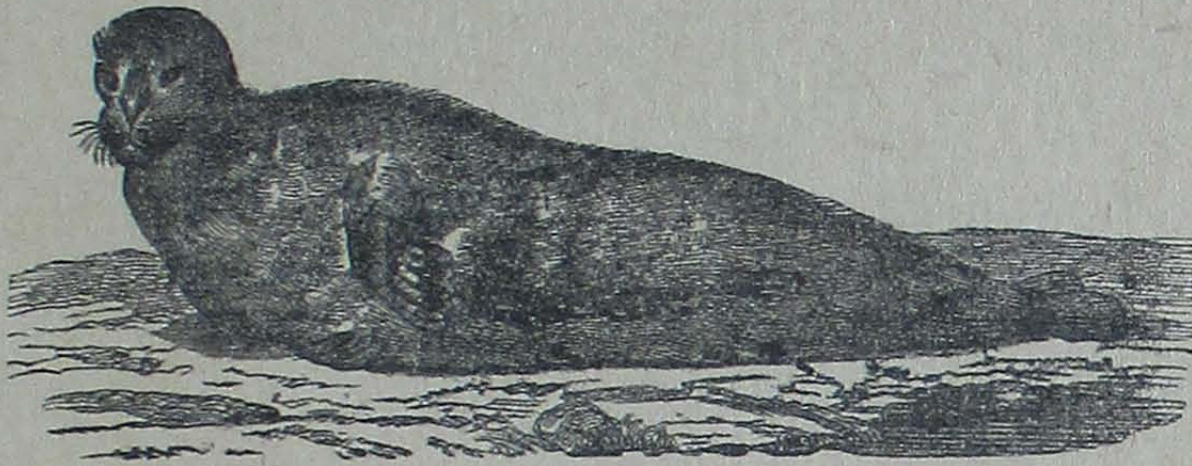
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No. 87.

### THE SEAL.

THE Seal lives on the sea-coasts of the northern parts of Europe, and it is hunted for the sake of its skin, which is covered with a beautiful rich and very warm fur, and also to obtain the oil which it furnishes. The common northern Seal is about five feet long, but in the Antarctic, the Pacific, and the Southern Oceans, this creature is found sometimes thirty feet in length, and the males have a curious long snout, like a tapir's. The Common Seal is an interesting creature, and, if captured when young, it may be easily tamed, when it attaches itself to its human friends almost like a dog. The Seal is one of those animals that are called "amphibious"—that is, it lives both on land and in the water; the water however, is its favourite element, in which it moves freely and gracefully, while on the land its movements amount only to an awkward





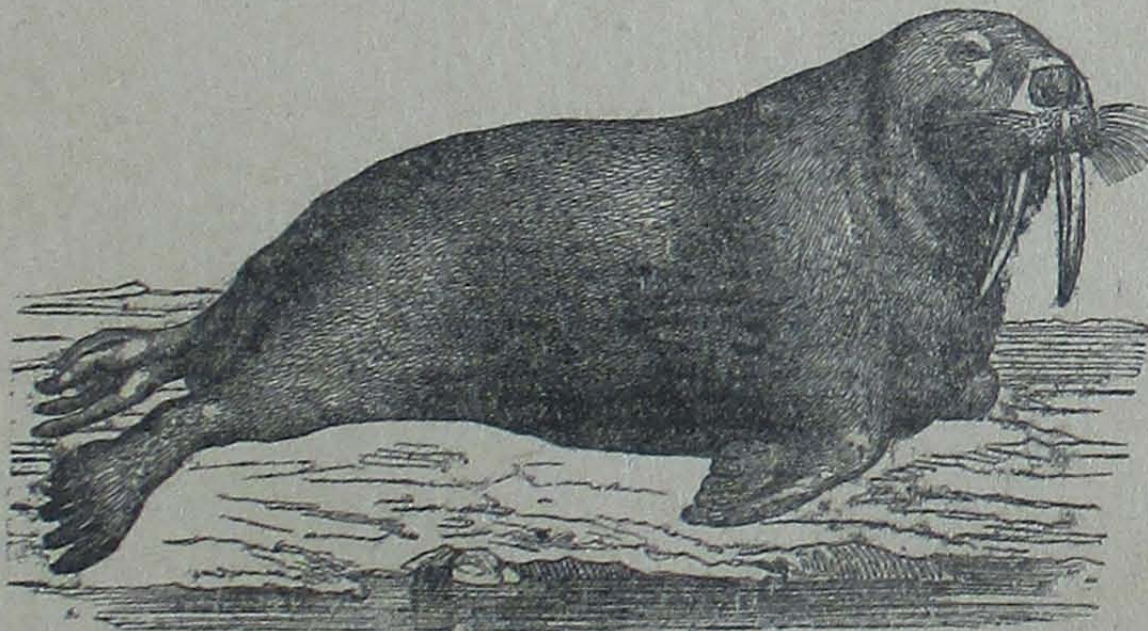
No. 87.—THE SEAL.

kind of shuffling. The Seal, however, enjoys basking on the shore; but if surprised, it scrambles off towards the water, and, should any one attempt to stop it, it will endeavour to overthrow its enemy with great courage.

No. 88.

## THE WALRUS.

THE Walrus is a kind of Seal, which, unlike the true Seal, has a very fierce instead of a very gentle expression of countenance. This is caused by its



No. 88.—THE WALRUS.



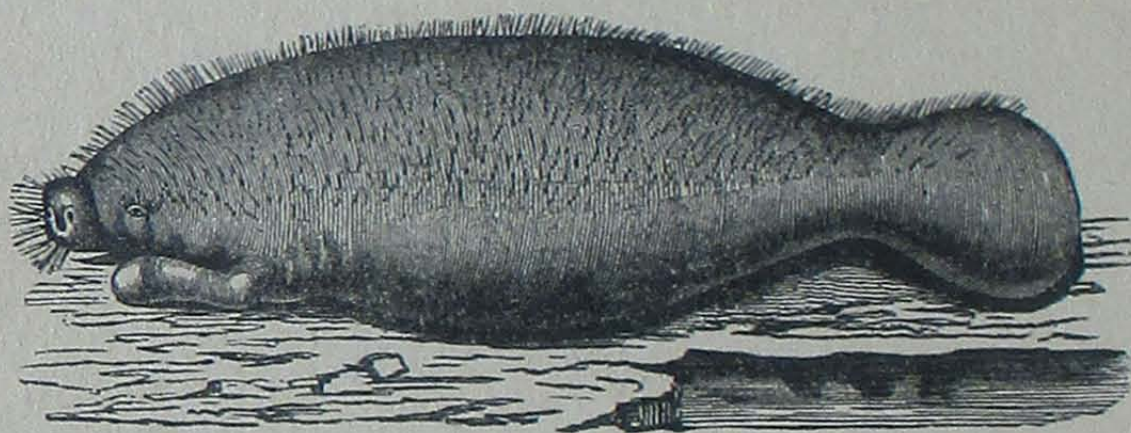
immense upper lip, which is covered with thick bristles, and by its two upper teeth, that resemble the tusks of an elephant. These tusks furnish the finest and most beautiful ivory. The Walrus lives in herds in the northern seas and on their coasts, and should any one of a herd be wounded by a walrus-hunter, the rest rush against the enemy, and

fiercely strive to protect their comrade.

No. 89.

### THE MANATEE.

THIS creature, which is about ten feet long, and has a thick tough skin, is found on the shores of the Atlantic Ocean and at the mouths of great rivers.



No. 89.—THE MANATEE.



## DIVISION I.—ZOOLOGY.

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### PART III.—BIRDS.

BIRDS, which have two legs and two feet only, and are without arms and hands, are provided with wings, so that, besides breathing the air, they are enabled to fly through it above the surface of the earth. The form and structure of these beautiful creatures are most perfectly suited to their great characteristic quality—the faculty of flying on the wing. They have a covering of feathers, and they produce their young in eggs.

In the beginning, Birds, the inhabitants of the air, were created before Quadrupeds, the inhabitants of the land.

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No. 90.

#### THE CREEPER.

THIS little bird may often be seen in England. Its habit of running up the

trunks of trees, and of clinging to the bark with its long slender claws, gives it the name of the *Creeper*. It feeds on insects, and its long curved bill is exactly suited to dart into every



crevice in search of food. It builds its nest in decayed trees, and lays from seven to nine eggs, grey with darkish spots.



No. 90.—THE CREEPER.

No. 91.

### THE SPARROW.

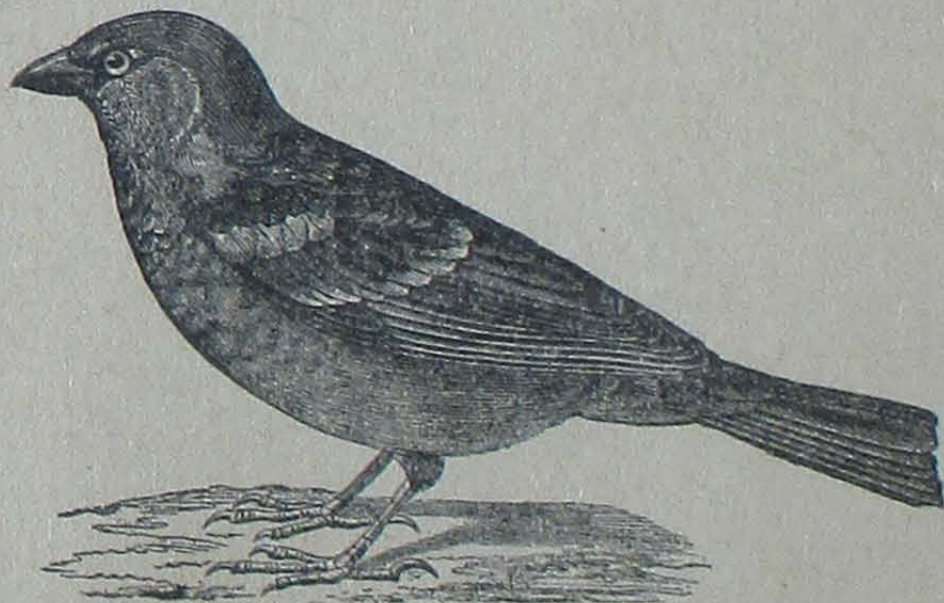
WE need say but little about the Sparrow, for its small pert form is so

familiar to us that we have no trouble in finding out all its ways; and very cool ways they often are, for the Sparrow seldom waits to be asked, and helps itself to the food intended for the hens and chickens without the slightest hesitation. The House Sparrow has speckled black and white eggs; but the bird we call the Hedge Sparrow has beautiful little blue eggs.

No. 92.

### THE CROSSBILL.

WE must look amongst the branches of the fir-tree to find the Crossbill's nest, with its bluish-white eggs spotted with red. This bird's curious crossed beak is exactly suited for opening the fir-cones and getting out the seeds, its favourite food. It can even halve an apple to get at the pips.



No. 91.—THE SPARROW.





No. 92.—THE CROSSBILL.

No. 93.

### THE BULLFINCH.

WITH its soft black head, and pretty red, grey, and black feathers, the Bull-



No. 93.—THE BULLFINCH.

finch attracts us at once. It has a sweet low voice, and can be taught to

whistle tunes, and is very easily tamed. "Bully" shows his pleasure directly any one he likes comes near his cage by puffing out all his feathers, till he is more like a ball than a bird, bowing, and singing his sweetest song.

No. 94.

### THE FIELDFARE.

THE winter weather brings the Fieldfare from its cold home in the North of Europe to visit us in England ; and, as we have found out that it is



No. 94.—THE FIELDFARE.

very good to eat, it cannot be said to be always a gainer by the change. This bird, which is like a large Thrush, is about ten inches long, and builds its nest in fir-trees.



No. 95.

## THE GROSBEAK.

THIS bird is very shy. It lives in flocks, and feeds on wild berries. With its thick strong beak it can break even cherry-stones, to get at the kernel inside.



No. 95.—THE HAWFINCH, OR GROSBEAK.

No. 96.

THE ALPINE ROOK  
AND CROW.

WE have no friends amongst the birds that we know better than the Rooks, that build in the tall trees, and may be seen in flocks in our fields.

The English Crow differs from them in its habit of living alone. In the great mountains called the Alps there are also Rooks and Crows, and in No. 97 we have a picture of them both.

No. 1 is the Alpine Rook, and No. 2 is the Alpine Crow.



No. 96.—1. ALPINE ROOK. 2. ALPINE CROW.

No. 97.

## THE BLACKBIRD.

AGAIN we see one of our best-known feathered friends. The Blackbird does not like to come very near us, but is quite bold enough for us to have plenty of time to admire his jet-black feathers and bright yellow beak. In our picture, *a* is the cock Blackbird, and *b* the hen, whose feathers are not so black as those of her mate.





No. 97.—THE BLACKBIRD.

No. 98.

## THE NIGHTINGALE.

THE beautiful song of the Nightingale makes it quite the king of British



No. 98.—THE NIGHTINGALE.

singing birds. When all other birds are asleep, the soft sweet whistle, followed by the lovely varied notes, tells us in sweet music that the Nightingale is near. It is not found in all parts of England, and is very seldom seen, as it is a shy bird. It is not at all remarkable to look at; but, with its perfect song, it may truthfully be said to need no other attraction.

No. 99.

## THE RING-OUZEL.



No. 99.—THE RING-OUZEL.

THIS bird is a variety of the thrush kind. The male bird (marked *a* in our picture) has a band or ring of white feathers, from which he takes his name of *Ring-ouzel*; the rest of its feathers



are dark brown. It is a very active bird, and has a rapid flight, and it also has a loud and clear song. The Ring-ouzel chooses a sheltered place near the ground in which to build its nest.

No. 100.

### THE SWALLOW.

WE always welcome the Swallow, for it comes here with the spring weather, and seems sent to tell us that winter is gone. It feeds on the small insects that hover over ponds and rivers, and



No. 100.—THE SWALLOW.

may be seen darting over the surface so low as to touch the water with its wings, and, with quick snaps of its bill, it catches its little prey. It makes its nest of mud against a wall, or just

under the roof of a house, and its eggs are very pale pink spotted with reddish-brown.

No. 101.

### THE SISKIN.

THIS little bird is more common in Scotland than in England, where, in the fir-woods, it may be often seen.



No. 101.—THE SISKIN.

It chooses the topmost branches upon which to build its nest of birch-twigs and heather lined with hair.

No. 102.

### THE HOOPOE.

THE Hoopoe can raise or lower its crest at pleasure, and is by no means a small bird, being about a foot long. In France Hoopoes are seen in flocks,





No. 102.—THE HOOPOE.

often stopping to examine old decayed trees to find the insects on which they feed, and which they beat up into a lump before they swallow them, jerking their heads back to let the dainty morsel go down.

No. 103.

### THE STARLING.

THE Starling's nest is usually placed in old buildings, and is by no means difficult to find, since the bird leaves ends of straw sticking out; and when going to feed its young it makes a great noise, in which the little ones join, so that the place of the nest is soon noticed. Before night, Starlings wheel about in large flocks as

regularly as if they were well-drilled soldiers, changing their position as if acting under the word of command.



No. 103.—THE STARLING.



No. 104.

## THE ROLLER.

A VERY shy bird is the Roller, and very seldom seen in England. It likes to live in thick forests, and



No. 104.—THE ROLLER.

makes its nest in trees. It has short legs, and brilliant blue and green plumage. It is about thirteen inches long.

No. 105.

## THE CRESTED LARK.

THIS particular kind of Lark has a small crest. All larks have a lovely clear song, and, while singing, mount up higher and higher in the air, soaring in a spiral and with a fluttering



No. 105.—THE CRESTED LARK.

movement. Their nests are made on the ground.

No. 106.

## THE MAGPIE.



No. 106.—THE MAGPIE.

THIS is the very monkey of birds. Without a hiding-place for all his mis-

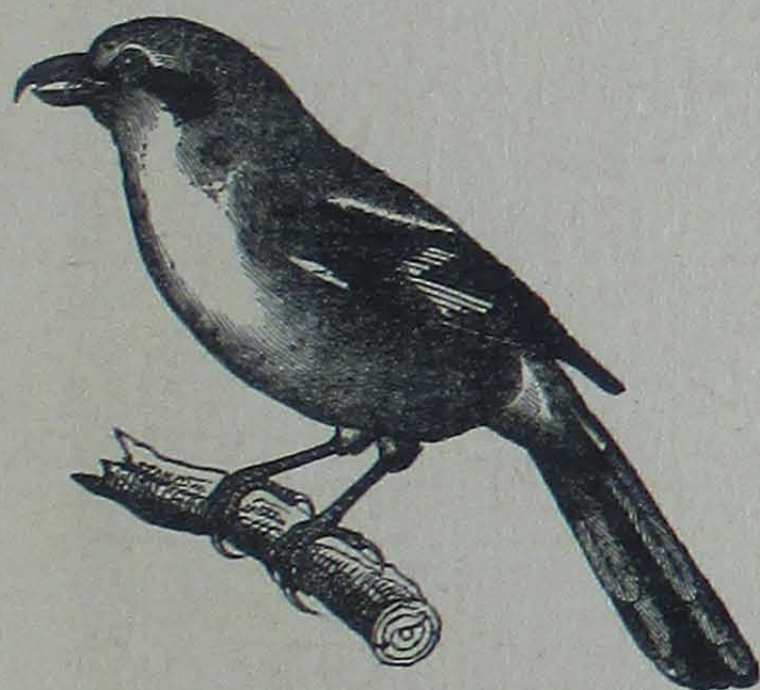


chievous thefts, the Magpie is never happy. Most cunning does he look, with his head on one side, and his sharp black twinkling eyes on the alert for some malicious trick.

No. 107.

### THE SHRIKE.

UNLIKE other birds who kill and eat their prey at once, the Shrike acts quite in butcher-fashion. After



No. 107.—THE SHRIKE.

pouncing on some unlucky little bird, mouse, or frog, and killing it by blows on the head with its strong bill, it actually hangs up its victims on large thorns, and eats them at leisure. The largest kind of Shrike is nine or ten inches long, and builds its nest in trees.

No. 108.

### THE JAY.

THIS bird is also shy and fond of a forest life, but is common enough in our English woods. Its blue wing-feathers are of a beautiful colour. Like several birds of the same kind,



No. 108.—THE JAY.

Jays can imitate the songs of other birds, and such sounds as the bleating of a lamb or the neighing of a horse. It is anything but a favourite with gardeners, being very fond of fruit, particularly of cherries.

No. 109.

### THE WREN.

THE little Wren seems to have a charmed life, for no one will pur-



posely kill it. Its tiny pert form, and funny little jerking tail, are whisked about close to guns whose fire is death to other less-favoured birds of a larger growth. It builds a curious oven-shaped nest in any snug



No. 109.—THE WREN.

place, without any fear of being disturbed, and there lays six or eight white eggs, speckled with reddish-brown.

Nos. 110 and 111.

## THE GREAT TITMOUSE.

IN the spring-time the Titmouse is wonderfully active in its chase after insects, and will perch on the thatch of old houses, and hang there, with its back downwards, pulling out the straws to get at the little flies that hide there.



No. 110.—THE GREAT TITMOUSE.

No. 111 is a picture of the head of the Bearded Titmouse. It has a tuft of soft black feathers on each side, more like whiskers than beard. It is



No. 111.—THE BEARDED TITMOUSE

rare in England, and is fond of a marshy land, where it flits over the reeds in search of insects.

No. 112.

## THE HEAD OF THE CORN LARK.

WE have already had a picture of the Crested Lark, and this picture, No. 112, shows the head of the Corn Lark, a Lark without a crest.



Its habits are like those of other Larks. The two different pictures speak for themselves. One peculiarity



No. 112.—HEAD OF CORN LARK.

of the Lark is that its foot is so very stiff, that it cannot perch on trees.

No. 113.

### THE HUMMING-BIRD.

AMERICA, the hills in India, and the West Indies, are the homes of these little gem-like birds. They get their name from the humming noise made by their wings when they hover over flowers. Most brilliantly lovely are these little fairy creatures, darting



No. 113.—THE HUMMING-BIRD.

about in the rays of sunshine, their feathers glittering like flying jewels of every colour. They thrust their long beaks deep into the flowers to get the honey and dew, and also tiny insects. Some of these birds are not larger than a humble-bee. Their nests are beautiful little structures, made of down, moss, and lichen. One particular kind of Humming-bird, which builds its nest on branches that overhang rivers, makes a rim all round the edge of the nest, turned inwards, so that, when the nest is blown about with the branch, the eggs cannot fall out.

No. 114.

### THE HEAD OF THE FLY-CATCHER.



No. 114.—HEAD OF FLY-CATCHER.

THIS bird perches on overhanging boughs, and watches for insects or flies, and then darts at them, from which habit it takes its name of Fly-catcher. It likes to live in gardens or orchards, and is not at all timid, so that it may be easily watched, and



its peculiar habits observed. It comes to England in May, and stays till October. It has no song, only a weak chirp. It is about five inches long, and builds its nest in holes of trees or walls.

No. 115.

### THE CUCKOO.

WE listen for the first sound of the Cuckoo's voice to tell us of the arrival of the spring, and very welcome is the bird to us in consequence. Its character is not quite so pleasing, for it builds no nest for itself, and lays its eggs one by one in the nests of other birds, chiefly in that of the Hedge-sparrow, leaving its young to be reared by strangers; and, oddly enough, the young Cuckoos always fare very well, getting the lion's share of the nest and the

food, on account of their large size. Cuckoos feed on insects, and are very fond of the hairy caterpillars.

No. 116 is a drawing of the head of the Cuckoo, which will show you how the bird looks whose cry is so familiar to us all in the spring-time.



No. 116.—HEAD OF CUCKOO.

No. 117.

### THE HEAD OF THE GOAT-SUCKER.



No. 117.—HEAD OF GOAT-SUCKER.



No. 115.—THE CUCKOO.

THE Goat-sucker, or Nightjar, is another spring bird. It flies about in the evening in search of moths and beetles, which it easily catches and secures by the help of the bristly fringe with which its mouth is lined. This bird does not make a nest, but lays two mottled eggs on the bare ground.





No. 118.—THE BIRD OF PARADISE.

No. 118.

THE BIRD OF  
PARADISE.

It is hardly possible to give a true idea of this gorgeous bird by description. Its body is of a deep rich brown, with black feathers in front shot with green; the throat is a beautiful golden green, the head yellow, and the sides of the tail are bordered with a plume of soft

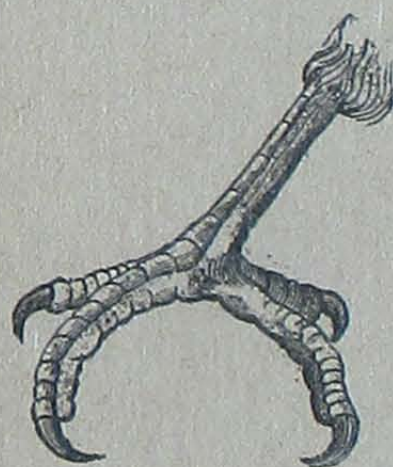
yellow feathers, from which extend two long thread-like shafts nearly two feet long. The bird is so proud of these lovely feathers, that it is always cleaning and arranging them, and sits facing the wind, so that its soft plumes may not be put out of order. New Guinea is the home of the Bird of Paradise. The natives kill it, and cut off its feet, and then sell the "fine feathers" to merchants, by which means they find their way to England.



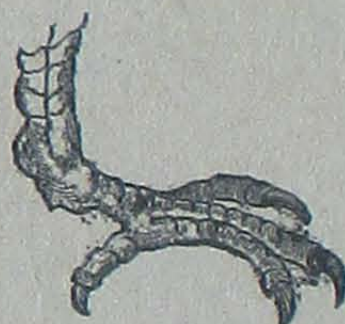
Nos. 119 and 120.

## THE FOOT OF THE WRY-NECK.

THE name of Wry-neck is given from the bird's habit of twisting its neck quickly about, hissing like a serpent at the same time, if it is disturbed. The great difference in the shape of the feet of birds may here be noted. We have mentioned the Lark's foot, with its stiff, straight claws: the feet of both the Wry-neck and Kingfisher show that both these birds can easily perch on trees, as they can cling round the small branches and twigs with a firm hold.



No. 119.—FOOT OF WRY-NECK.



No. 120.—FOOT OF KINGFISHER.

No. 121.

## THE SWIFT.

OF all the swallow tribe, this bird is the swiftest, hence its name; it is so constantly on the wing, wheeling about and soaring up to a great

height, that it seems to spend all its time in this active manner. In colour this bird is dusky black; the length is eight inches, and its wings spread out to a width of eighteen inches; its weight is only one ounce. The Swift devours an immense number of insects, which it keeps in a little pouch under its tongue, chiefly for the benefit of its young. The feet are very peculiar, for there is no hinder claw. The nest is made of straw, grass, and feathers, and from two to five long white eggs may be found in it.



No. 121.—THE SWIFT.

No. 122.

## THE COCKATOO.

COCKATOOS have a sort of powder on their feathers, and have crested



heads. The sulphur-crested Cockatoo is found in New Guinea, and its white plumage is a beautiful contrast to the dark-leaved trees of its native forests. These birds are great favourites, for they are easily tamed, and may be taught to talk. Their disposition is affectionate; and they will lower their heads in the most insinuating manner, and shut their eyes, and move gently, to invite a rub in a fresh place, as if they were in a state of the utmost content. Of course it is possible to ruffle their tempers, so you had better keep out of reach if they are in an angry mood, else you may get an indignant peck, which will probably not be pleasant.

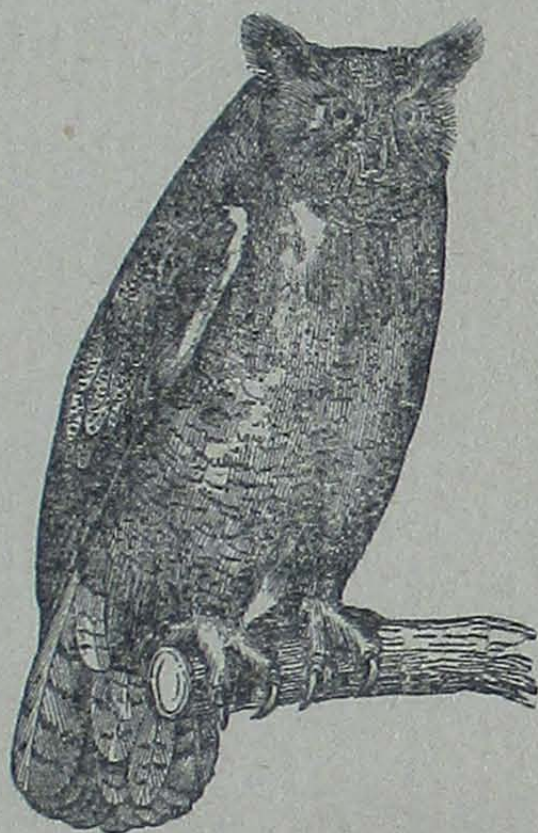


No. 122.—THE COCKATOO.

No. 123.

## THE GREAT EARED OWL.

THIS is the largest and most powerful of the Owl family. It requires more than such small prey as rats and mice, and so it pounces on hares,



No. 123.—THE GREAT EARED OWL.

rabbits, and small birds. It is not at all common in England, but frequents the North of Europe. Its height is about two feet.

Nos. 124 and 125.

## THE HEADS OF TWO WOODPECKERS.

OF No. 124, the head of the Black Woodpecker, we will say very little,





No. 124.—HEAD OF BLACK WOODPECKER.

as the Great Spotted Woodpecker is fully described in No. 128, and the heads of the two varieties only differ in colour. No. 125 shows the head



No. 125.—HEAD OF BLUE WOODPECKER.

of the Blue Woodpecker, its head feathers being of a blue tint. Both birds are common in the woods of Germany.

## No. 126.

## THE HEAD OF THE GREEN PARROT.

BRILLIANTLY green is the plumage of this bird. Its curved bill is quite a contrast to the straight beaks of the Woodpecker tribe.



No. 126.—HEAD OF GREEN PARROT.

## No. 127.

## THE BEARDED VULTURE.

THIS large, fierce, and bold bird, which measure nine or



No. 127.—THE BEARDED VULTURE OR LAMMERGEYER.



ten feet from tip to tip, has its home amidst the peaks of mountain ranges. And, being very bold, the Bearded Vulture is also very crafty ; for it will watch the swift and strong chamois till it stands on the edge of some precipice, when by a sudden swoop it will dash the unwary creature down into some rocky ravine far below, and there it will devour the body of its victim.

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No. 128.

## THE GREAT SPOTTED WOODPECKER.

THE Great Spotted Woodpecker is not so common in England as other varieties of the same bird ; its habit of living entirely in thick woods causes it to be very seldom seen. All woodpeckers are formed in a way exactly suitable to their woodland life ; they feed entirely on the insects found in the bark of trees, so their bill is strong and sharp, and their tongue very narrow, long, and sharp at the tip, and covered with a gummy substance, to which the smallest insects stick. The feet and legs of this bird are made on purpose for clinging very tightly, so that it has a firm hold on the tree whilst it is busy pecking away at the crevices in the bark.



No. 128.—THE GREAT SPOTTED WOODPECKER

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No. 129.

## THE GYR FALCON.

IN olden times hawking was a favourite amusement, and falcons were therefore in great request. They were trained to dash at partridges with their swift flight, and would strike them down with the greatest ease. The Gyr Falcon is very rare in England. Its eggs may be found on the rocky shores of Norway and Iceland. The bird will defend its young to the last extremity with almost fierce affection, dashing



repeatedly at the face of the daring thief who would rob it of its dearest treasures.



No. 129.—THE GYR FALCON.

No. 130.

### THE HAWK OWL.

OWLS' eggs are easily known from those of other birds, as they are rounder, and have on their white surface a peculiar roughness. The Hawk Owl is a northern bird, and lives in Asia and North America. It differs from its European relations by being much sharper and *hawk-like* in look, and by hunting in the day-time. It builds its nest in trees, and is from fifteen to eighteen inches long.

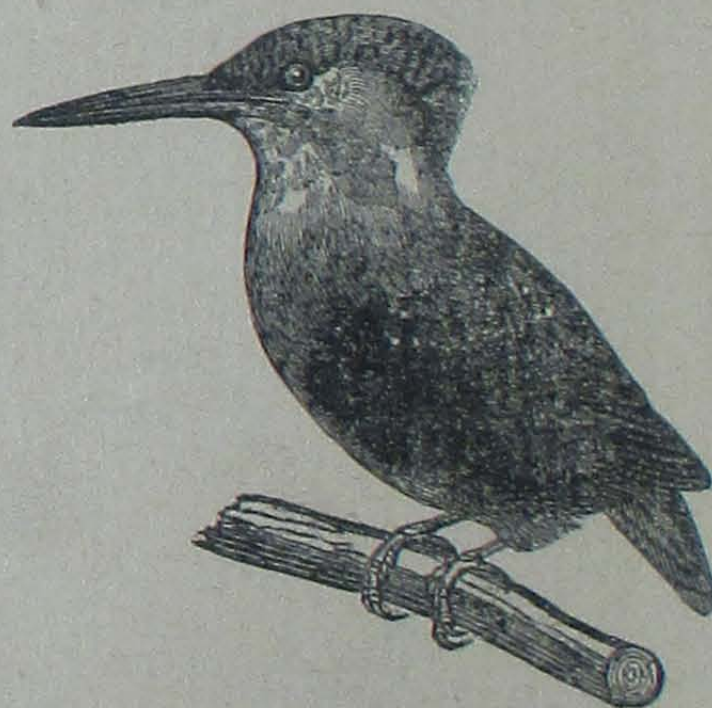


No. 130.—THE HAWK OWL.

No. 131.

### THE KINGFISHER.

THERE are very few English birds that have much colour in their plumage; so that the Kingfisher is deservedly admired as it flashes its



No. 131.—THE KINGFISHER.



brilliant metallic feathers through the air whilst seeking its food—little fishes, such as minnows. Its nest is made by boring holes in the banks of rivers or ponds, and it has from four to seven pearly-white eggs. The Kingfisher's head and beak appear to be out of proportion to the rest of its body, being very large. A picture of the foot of the Kingfisher has been given in No. 120.

No. 132.

### THE CONDOR.

THIS bird has a fleshy tuft on its beak, and a naked neck. It is one of

the largest of the feathered tribes, being about four feet in length, and its wings from nine to ten feet long, when stretched out to their full extent. The Condor is very strong, and preys on small animals. It has been known to attack the llama, and by its untiring and fierce pecking wear out the poor animal till death has ended its sufferings, and the voracious Condor has been left conqueror, and able to enjoy a hearty meal. The Condor lives in South America, amongst the great mountains called the Andes. It is a bird of solitary habits, and likes to find some lone elevated rock on which to perch. It is said to build no



No. 132.—THE CONDOR.



nest, but to lay its two white eggs on the bare rock.

No. 133.

### THE GOLDEN EAGLE.

IN most European countries, and in the mountainous parts of Scotland, the Golden Eagle is to be seen. This splendid bird flies in a most beautiful and majestic manner; but its long curved claws make its movements on land anything but graceful. Its talons are very powerful, and enable it to clutch its prey with unrelenting firmness; sea-birds, hares, rabbits, and

even young lambs, are thus pounced on, and carried off to the eagle's lofty nest, where first of all appear two yellowish-white eggs, and then the hungry young eaglets. When it is said that any one has an *eagle-eye*, the expression has a good foundation; for this bird's eye is peculiarly formed, so that it can see objects either at a very great distance or quite near with equal clearness.

No. 134.

### THE OSPREY.

THE Osprey is also called the Fishing-hawk. It is about two feet



No. 133.—THE GOLDEN EAGLE.

No. 134.—THE OSPREY.



long, and its wings five feet and a half. Its feet are of a greyish-blue; but this colour can only be seen on the live bird, as it fades away after death. As fish is the sole food of the Osprey, its instinct teaches it to dash actually into the water to seize its prey, making a great splashing, and often quite disappearing under the water. The Bald-headed Eagle has also a taste for fish, and often provides itself with a cheap, although ill-gained dinner, by pursuing the Osprey as it flies off with its finny victim, and persecuting it until it lets fall the envied treasure, which the Eagle at once snatches, and carries off in triumph. The nest is very large, made of almost a cart-load of sticks and grass, in which the Osprey lays eggs of a yellowish-white with brown patches.

No. 135.

### THE VULTURE.

VULTURES are birds whose nature leads them to choose dead and even decaying animals as their food. This sounds horrible, but in reality makes these ugly birds of great service. They look as if intended for work of this kind; their necks are almost without a sign of feathers; their beak is large, and so are their claws, and both are equally well suited for tearing in pieces their chosen food. The Griffon

Vulture is found almost all over the world, and is the largest of its kind; the King Vulture is a native of South America. These repulsive-looking birds are protected by the natives, because of their great use in devouring all sorts of carrion.



No. 135.—THE VULTURE.

No. 136.

### THE GOSHAWK.

THE British Isles are not much favoured by the Goshawk; it prefers



almost all the other wooded parts of Europe. Although only about two feet in length, the Goshawk has such strength that it kills hares, rabbits, squirrels, and pheasants. It



No. 136.—THE GOSHAWK.

dashes at them with tremendous force and great swiftness, and watches with untiring patience if its intended victim finds some temporary hiding-place.

No. 137.

## THE EGYPTIAN VULTURE.

ANOTHER kind of Vulture claims our attention; it is sometimes called Pharaoh's Chicken, and is found in Egypt. Its habits are the same as other Vultures, and it is protected by law, on account of its use as a public scavenger.



No. 137.—THE EGYPTIAN VULTURE.

No. 138.

## THE FOOT OF THE FALCON.

WE must look back to No. 129 for the whole bird, whose foot is here shown. This larger-sized picture shows the



pretty feathers that cover the top of the Falcon's leg, and also its strong claws, from which we can easily imagine how difficult it would be for an unlucky partridge to escape.



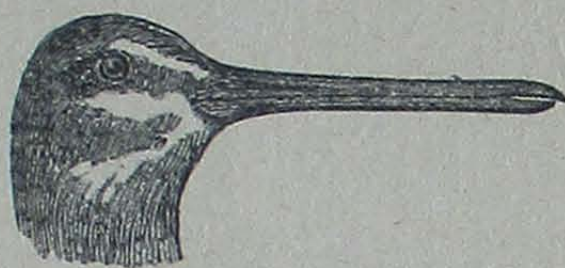
No. 138.—FOOT OF FALCON.

No. 139.

### THE HEAD OF THE SNIPE.

THE Snipe and the Woodcock are much alike in their habits; but the

Snipe's way of flying is very peculiar, and makes it a very difficult bird to



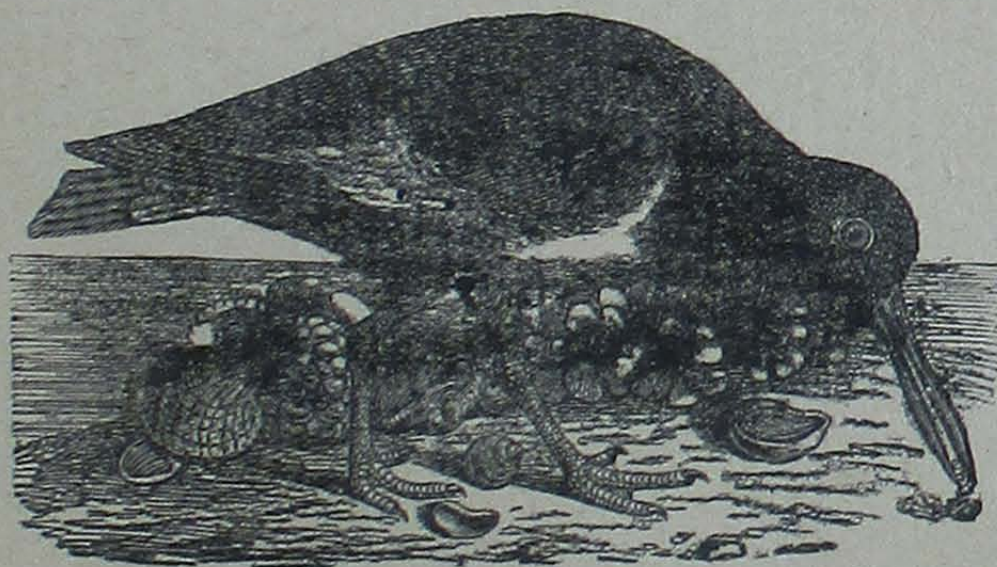
No. 139.—HEAD OF SNIPE.

shoot. The Jack Snipe has a way of keeping to one particular place, which it will not leave; its affection for its chosen home is so strong, that even being fired upon will not frighten it away.

No. 140.

### THE OYSTER CATCHER.

OUR picture shows the Oyster-catcher busy at work on the sea-shore in search of its favourite food. This bird's beak is its most remarkable feature; it is three inches long, flat-



No. 140.—THE OYSTER CATCHER.

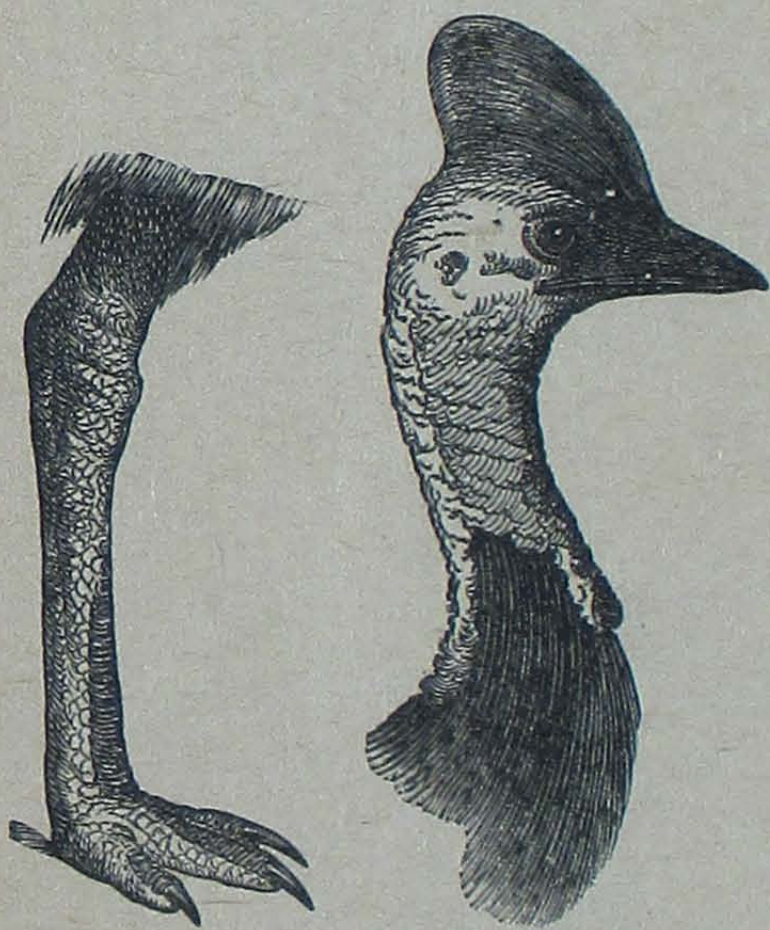


tened sideways, and has an end like a chisel, so that it can easily open oyster-shells, and get at the dainty morsel inside.

Nos. 141 and 142.

### THE CASSOWARY'S FOOT AND HEAD, ETC.

THE Cassowary runs swiftly, like an ostrich. The pictures of the legs of three different birds show their



No. 141.—FOOT OF  
CASSOWARY.

No. 142.—HEAD OF  
CASSOWARY.

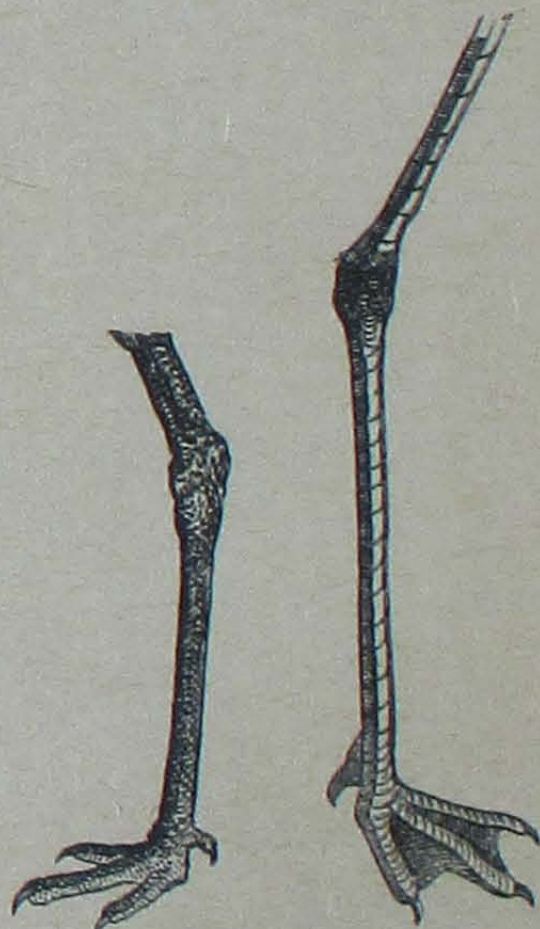
degrees of strength, and certainly the Cassowary is by far the most powerful. On its head this bird has a crest of a sort of bony substance.

The Crane is fond of marshy land, where reeds and rushes abound, but has not webbed feet (No. 144). Its head is without a crest (No. 143).



No. 143.—HEAD OF CRANE.

The Flamingo has webbed feet (No. 145). A further description of this bird will be found in No. 155.



No. 144.—RIGHT FOOT OF CRANE. No. 145.—RIGHT FOOT OF FLAMINGO.



No. 146.

THE HEAD OF THE  
WATER-RAIL.

VERY shy and solitary is the little Water-rail. Its bill is rather long, and its tongue narrow. It feeds on worms, soft insects, vegetables, and seeds, all of which it finds near water.



No. 146.—HEAD OF WATER-RAIL.

No. 147.

THE HEAD OF THE  
AVOCET.

THE Avocet frequents marshes and the mouths of rivers, where it uses its curved bill as a sort of sharp



No. 147.—HEAD OF AVOCET.

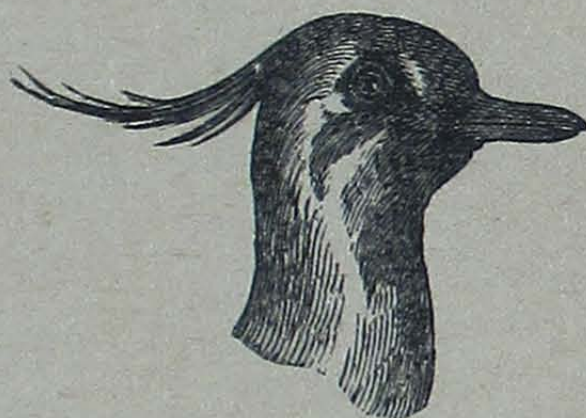
shovel, with which to scoop up insects out of the mud. The affection of this bird for its young leads it to pretend to be lame, so that by its dis-

abled appearance it may attract the attention of any intruders from the dearly-loved nest, or rather eggs.

No. 148.

THE HEAD OF THE  
LAPWING.

No. 148 shows the head of the Lapwing, Peewit, or Plover, with its pretty black crest. It utters a plaintive cry, "Pee-weet, pee-weet," as it tries to



No. 148.—HEAD OF THE LAPWING OR PEWIT.

beguile intruders from its nest. Its eggs are often sold, and are thought great delicacies.

No. 149.

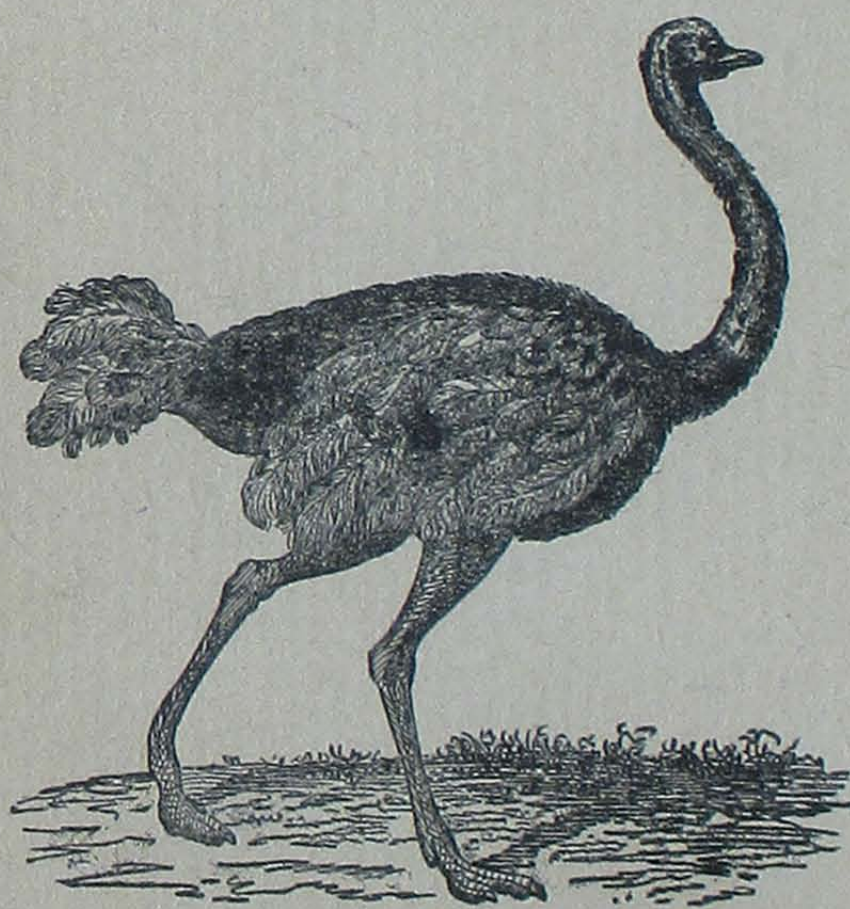
## THE OSTRICH.

THE tallest of birds is the Ostrich, for it grows to the height of seven or eight feet. Its wings are very short, but are thickly ornamented with the beautiful feathers we know so well; the tail can also boast of a few of these feathers, but they are not so

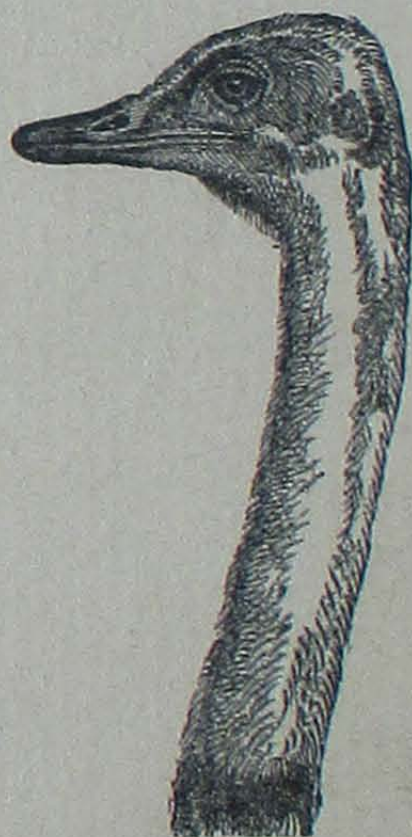


fine. We have to thank the natives of Africa, the Bushmen, for the ostrich plumes, the delicate beauty of which has often excited our admiration. The wild Bushman dresses himself in the skin of an Ostrich, and stalks about, imitating very cleverly the natural movements of the bird. He is armed with tiny poisoned arrows made of a slender reed with a sharp bone head. Sometimes he sits in an Ostrich's nest, and when the old birds return, greets them with his deadly weapons. No. 150 is a picture of the Ostrich's head, which is rather small, and its neck very long. Vegetable food is pre-

ferred by this bird; it also swallows quantities of stones and hard things to help its digestion. No. 151 shows the strongest limb possessed by the Ostrich. Its swiftness is so great that it can even distance a horse. We must say a word or two about the nest and eggs of this large bird. One or two hen birds usually lay their eggs in the same sandy spot; these eggs are very large, containing more than five pints. The natives make a very good omelet by burying an egg in hot ashes, and breaking a hole in the upper end, through this hole they stir the contents with a stick, and the dish is soon ready. The



No. 149.—THE OSTRICH.



No. 150.—HEAD OF THE OSTRICH.



Ostrich is very easy to tame; and many specimens may be seen in that most interesting *living* Natural History, the Zoological Gardens. Ostriches



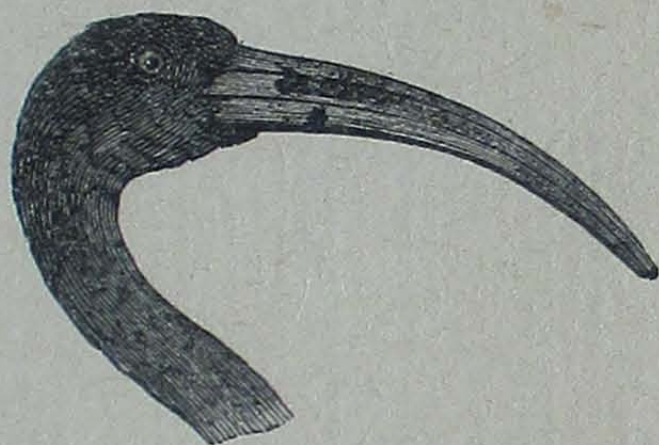
No. 151.—LEG OF OSTRICH.

astonish admiring visitors sometimes by coolly stretching out their long necks and appropriating a bun or biscuit which was not intended for their sole benefit.

No. 152.

## THE HEAD OF THE IBIS.

THE Egyptians used to worship the Ibis, and for that reason this bird is often represented on the old stone carvings found in that country. Mummies (that is preserved bodies) of the Ibis are constantly found in the tombs. This bird comes to Egypt



No. 152.—HEAD OF IBIS.

with the rise of the Nile, and goes away when the waters subside. In our picture we see its most curious curved bill, quite the contrary to that of the Avocet, which turns up very much. In size the Ibis is nothing remarkable, not being larger than a common fowl.

No. 153.

## THE STORK.

STORKS are great favourites in Holland, where the people encourage them to build their nests on the



houses, and fancy that the presence of this long-legged bird brings them good luck. Rats, mice, frogs, and other creatures, whose company is unwelcome to us, form the food of the



No. 153.—THE STORK.

Stork, so that it is really of use to its protectors. This bird was formerly found in England when marshy lands were more common; now that these lands are drained and cultivated it has quite deserted us.

No. 154.

### THE BITTERN.

LIKE the Stork, the beautiful Bittern has been banished from England.

The feathers of this bird are of a rich yellow with black marks. It feeds on fish as well as field-mice and small reptiles, and builds its nest in marshes on a little elevation. Its



No. 154.—THE BITTERN.

eggs are bluish-green, and are five in number. In the evening the Bittern leaves its bed of rushes, and soars high into the air, uttering its most peculiar booming cry.

No. 155.

### HEAD OF THE FLAMINGO.

As our picture only shows the Flamingo's *head*, we will at once look at the curious bent beak, so formed to suit the tall, long-necked bird. When it wishes to feed it lowers its flexible



neck, and draws into its bill the small vegetable substances found in water, which are caught in the sort of fringe with which the beak is edged. This bird is nearly six feet high. Its feathers are of a brilliant scarlet, the quill being black. Flamingoes march about in their native African and



No. 155.—HEAD OF FLAMINGO.

Asiatic marshes in troops, or stand in a long line, when they look very like a body of soldiers. The nest is quite curious enough to claim particular attention; it is a tall conical erection made of mud, with a hollow at the top in which two or three whitish eggs are placed.

No. 156.

## HEAD OF THE HERON.

THE Heron's quiet grey and black plumage is a great contrast to the bright scarlet of the Flamingo. Herons still frequent England, and

build their nests of a flat mass of sticks laid on the topmost branches of a tree. This bird is very fond of fish, and will stand with untiring



No. 156.—HEAD OF HERON.

patience, either in the water or on the brink of a stream, watching intently for the desired object, which it always secures. The crested head is seen in our picture.

No. 157.

## THE CAPERCAILLIE.

THE male Capercaillie, or Cock of the Woods, is about as large as a Turkey; the female much smaller. The Capercaillie has a most peculiar habit of going through a sort of "play;" the bird is then so absorbed that it is easy to come quite near it.





No. 157.—THE CAPERCAILLIE, OR COCK  
OF THE WOODS.

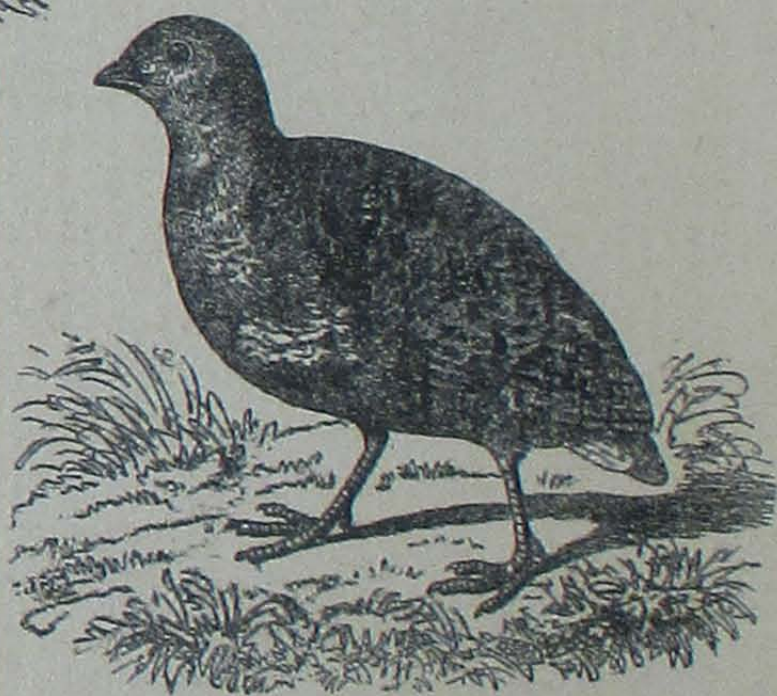
It begins by giving a cry, and stretching out its neck, its tail is spread out like a fan, all its feathers ruffled up, and its eyes half shut.

No. 158.

### THE QUAIL.

To give some idea of the numbers of Quails that visit England in the

summer, it is well known that thirty-six thousand were bought by the London poulterers in one season. They fly by night, and sometimes make such long flights that they exhaust their strength, when they settle on the ground, and may be caught easily: this reminds us of the quails covering the camp of the Israelites in the desert. The bird is about seven inches long. It makes a careless sort of nest on the ground, and has from seven to twelve eggs. Its appearance is something like that of the Partridge.



No. 158.—THE QUAIL.



No. 159.

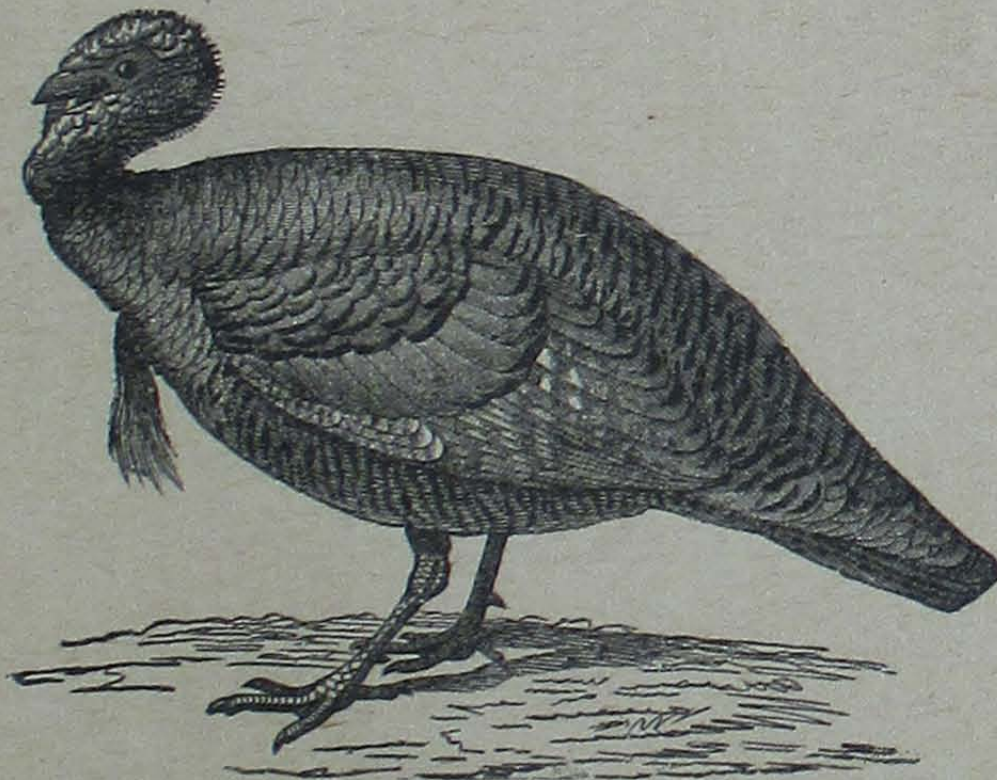
## THE PARTRIDGE.



No. 159.—THE PARTRIDGE.

MOST of us have tasted the delicate flesh of this bird ; and, to gratify our

appetite, Partridges are protected and reared with care, their destiny being to repay that protection and care by giving up their lives at the sound of our guns and the death-blows of the shot. Partridges build a flat kind of nest on the ground, and lay a great many eggs, as many as twenty-one having been found. The birds have a great affection for their young, and will not desert them. In some parts of England there are greater numbers of Partridges than in others. This bird is twelve inches and a half long. Its wing is short, and makes a curious whirring noise when flying, which sound is pleasantly familiar to the sportsman's ear.



No. 160.—THE TURKEY.



No. 160.

## THE TURKEY.

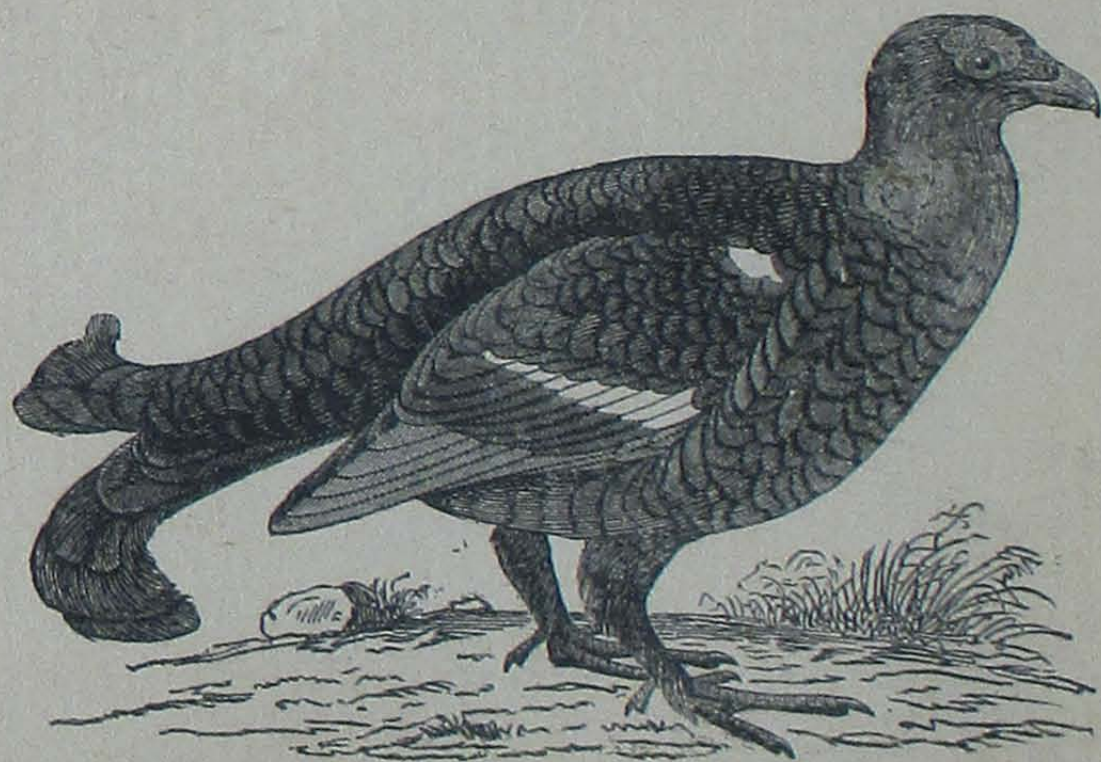
WE are on intimate terms with the Turkey, particularly at Christmas time. In its native American woods it marches about in large flocks from one place to another, not flying, unless attacked, or having to cross a river. The birds change their quarters in this manner in the autumn, about the end of October. They are very wary, and guard against such enemies as a hawk, eagle, or large owl, by at once giving the alarm to one another by a *chuck*, when all who hear the sound immediately lie down on the ground, hiding their heads and spreading their tails over their backs.

Turkeys are sometimes quite white ; but the commonest kind are of very dark plumage. These birds can put on a very dignified look when affronted, puffing out all their feathers, actually swelling with pride and anger, and uttering a loud "gobble, gobble." Turkeys' eggs are dull white, and about twice the size of hens' eggs.

No. 161.

## THE BLACK COCK.

THE Black Cock, or Black Grouse, is found on the moors of Scotland. It is a great attraction to sportsmen, who every year make excursions northwards in search of this bird.



No. 161.—THE BLACK COCK.



The tail is of a very odd shape; the feathers of a glossy black, and very much curved. In its habits it is similar to the Red Grouse.

No. 162.

### THE RED GROUSE.



No. 162.—THE RED GROUSE.

THIS bird is only to be found wild in the heaths of Scotland, Wales, and Ireland, where it is seen in great flocks, or "packs," and gives no small trouble to sportsmen by its wary ways and great shyness. The legs of the Red Grouse are covered with feathers quite down to the toes, in the same way in which a hare's leg is covered with fur, from which the



No. 163.—THE CRESTED GROUSE.

bird is sometimes called hare-footed. The Grouse forms its nest rather carelessly of heather and grass, sheltered by some small shrub; and its young are fully fledged by the month of August.

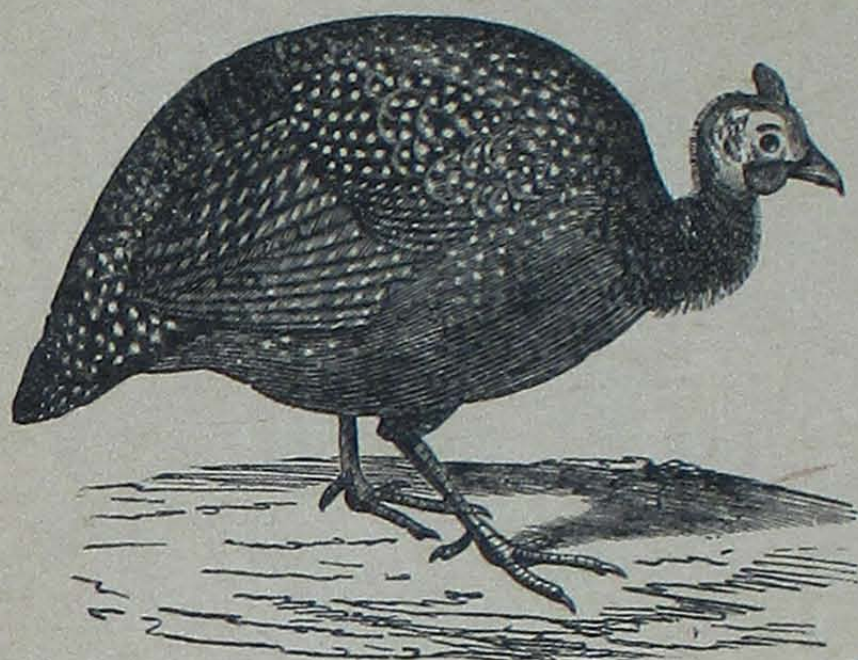
No. 163 is a picture of a Crested Grouse, which lives in the thick forests of Germany. Its plumage is the same all the year round.

No. 164.

### THE GUINEA FOWL.

THE name of "Come-back" has been given to this pretty speckled bird, from its peculiar cry. It comes from Africa, and always seems dissatisfied with a captive life. It wanders about





No. 164.—THE GUINEA FOWL.

restlessly, and never gets the same quiet habits as its constant companions, the barn-door fowls; indeed, it tyrannises over them, and gets the largest share of the food meant to be common to all. Guinea Fowls' eggs are smaller than hens' eggs, and are of a reddish-brown colour, spotted with dark brown. The bird does not attempt to make a regular nest, but takes great pains to hide its eggs in as secret a place as possible.

No. 165.

## FOOT OF THE SMEW.

THE Smew comes to the coast of England in the winter time. It is a very handsome bird, with well-contrasted plumage. Its legs and feet

are of a leaden-grey colour, and not suited for walking, but particularly adapted for diving and swimming, when the Smew is seeking its food of small fishes and insects found in the water; indeed it may almost be called a sea-bird, as its movements on land are very awkward. No. 166 shows the head of the Smew, and a pretty head it is; most of the feathers white, except round the eye and close to the beak, the upper half of which is curved at the tip.



No. 166.—HEAD OF SMEW.



No. 165.—FOOT OF SMEW.

No. 167.

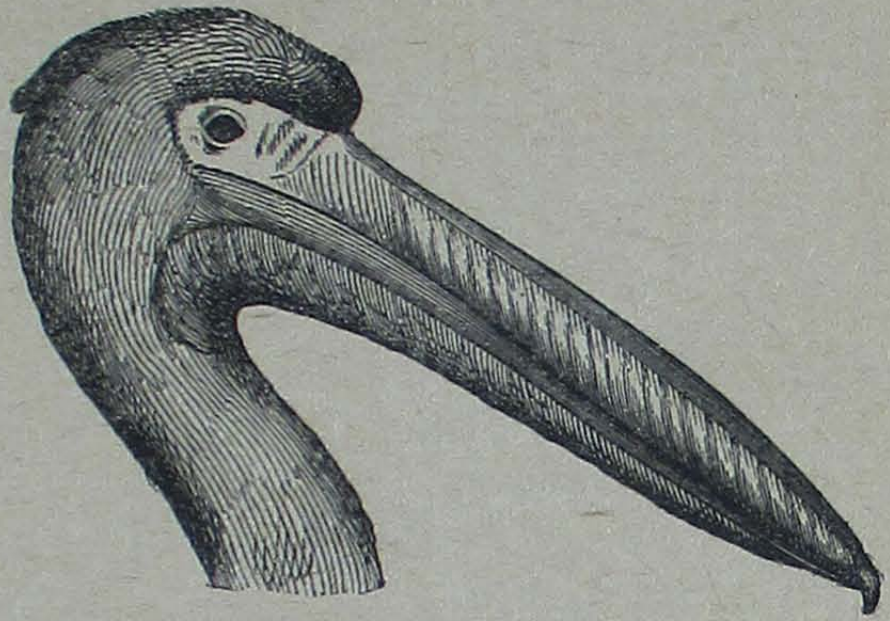
## THE GREAT BUSTARD.

THIS swift running bird was formerly common in England, but is now extremely rare. It trusts so entirely to its rapidity on land, that it hardly ever uses its wings. The Great Bustard is rather more than three feet long; its eggs are rather larger



## THE PELICAN.

than those of the Turkey, and are laid in a nest of loose straw, and only two eggs are laid at a time. The Bustard has a curious pouch in front of its neck, large enough to hold six or seven pints of water, and supposed to be for the use of the young unfledged birds, as the water can be raised to an opening under the tongue.



No. 169.—THE PELICAN.

No. 168.

### FOOT OF THE PELICAN.

ALTHOUGH this large bird is web-footed, it can perch on trees. Its height is nearly six feet. No. 169 shows the head of the pelican, with its long beak, and curious pouch underneath.



No. 167.—THE BUSTARD.



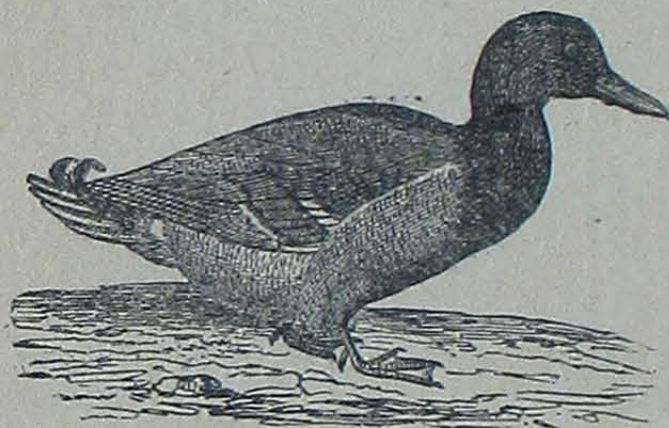
No. 168.—FOOT OF PELICAN.



No. 170.

## THE MALLARD.

THIS bird is the ancestor of our tame domestic duck, and is found in all the northern parts of Europe, Asia, and America. The Mallard is better known to us as the Wild Duck, and affords excellent sport. In some of the American lakes the sportsmen set afloat wooden figures like ducks, which



No. 170.—THE MALLARD.

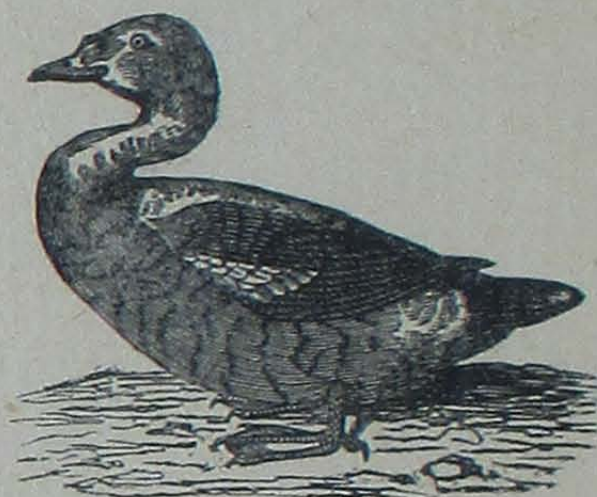
attract the attention of the passing flock, who settle on the water for a closer inspection. A small floating island of sedges and tall grass comes quietly near, which is really the little boat containing the artful hunter; and many of the unwary ducks thus fall victims to his gun.

No. 171.

## THE EIDER DUCK.

IN the arctic regions we find the Eider Duck. It makes its nest of

sea-weeds, moss, and down, under the shelter of a fir-tree. This beautiful soft down, which the eider duck plucks off itself in great quantities, is much valued; its softness, warmth, and lightness cannot be surpassed.



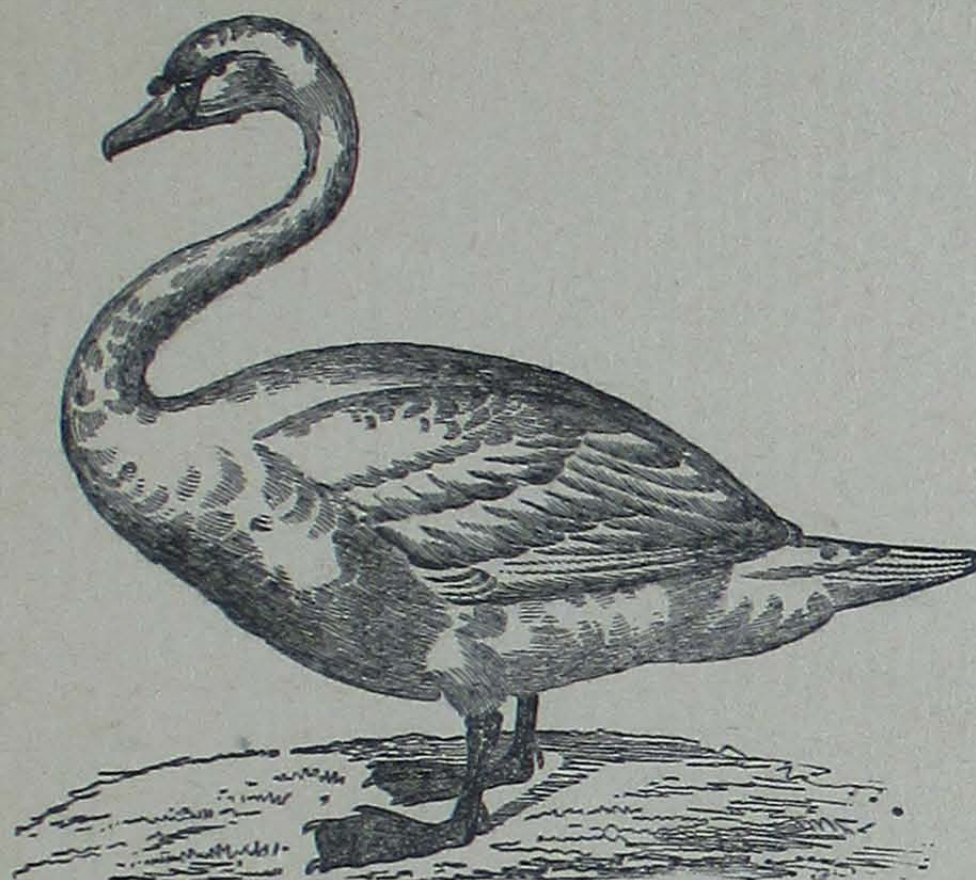
No. 171.—THE EIDER DUCK.

No. 172.

## THE TAME SWAN.

WE can admire the Swan most when it is gracefully gliding along on the water; it is very awkward on land, where it waddles like the Duck. Swans are not natives of England, but were brought from Eastern Europe and Asia several hundred years ago. They are very fierce when on the nest, and will not allow any one to go near the great mass of dry reeds of which it is made.





No. 172.—THE TAME SWAN.

No. 173.

## HEAD OF THE STOCK-DOVE.

THIS dove gets its name from building in stocks or stumps of trees. Its head and neck are bluish-grey, and its throat is tinted with a kind of wine-colour.



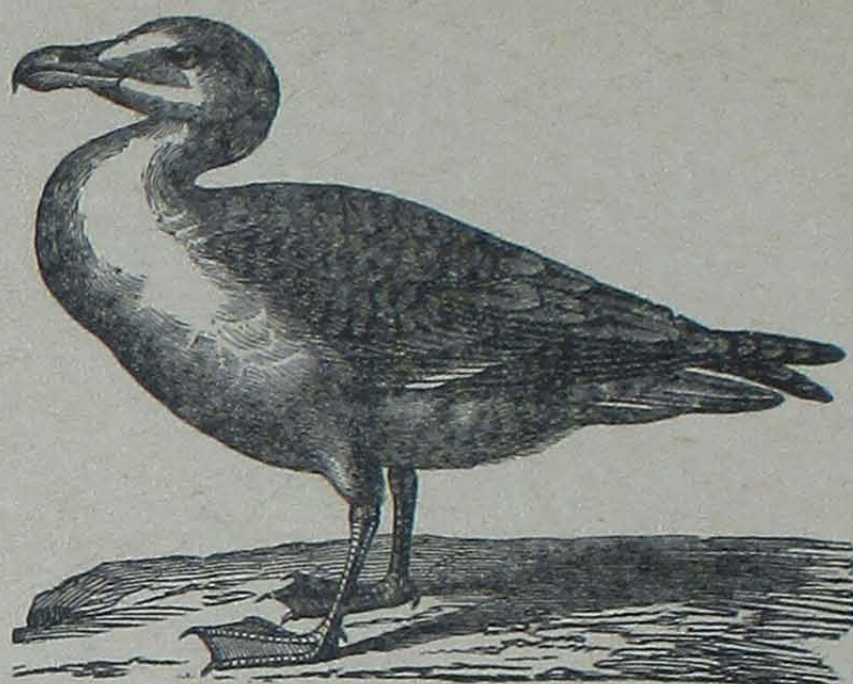
No. 173.—THE STOCK-DOVE.

No. 174.

## THE BLACK-BACKED GULL.

THE Gull is very common on our coasts. It goes to the warmer shores of southern Europe in winter. Its nest of grass and rushes is made close to the seaside, and in it may be found three or four olive-green eggs marked with dark brown. Gulls breed in great numbers in the Orkney Islands, as well as on the coasts of the **British Isles**.





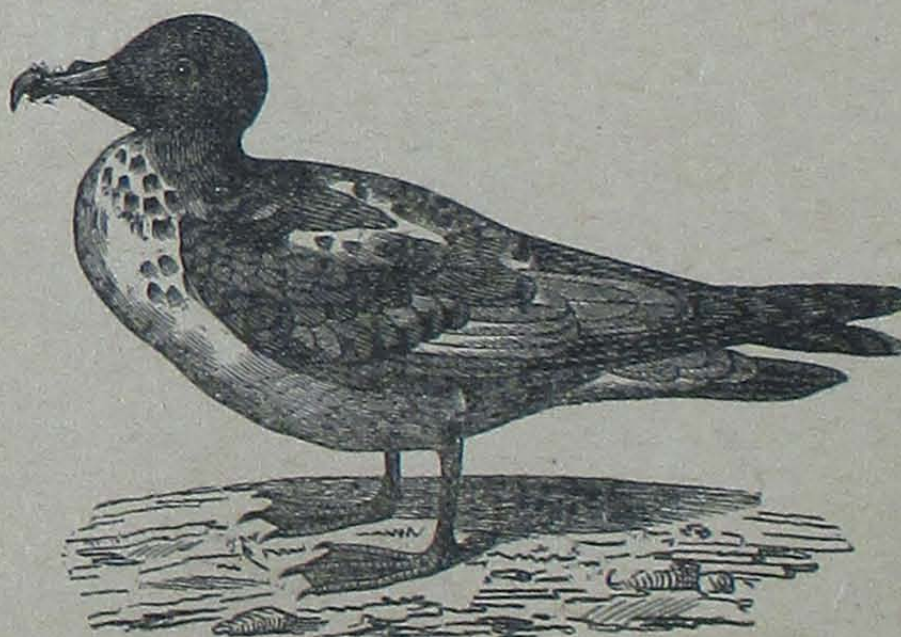
No. 174.—THE BLACK-BACKED GULL.

No. 175.

# THE CAPPED PETREL.

THIS is another frequent inhabitant of our coasts. It is quite at home on the water, so that it even sleeps on the sea. It goes pattering over the water

with its webbed feet, flying at the same time, and feeding on small fishes and the quantities of little water creatures called mollusks which are always found near the surface; it also eats some kinds of sea-weed. Its plumage is prettily varied with black,



No. 175.—THE CAPPED PETREL.



white, and grey, the white being most prominent when the bird is on the wing. The Stormy Petrel, or Mother Carey's Chicken, as the sailors have named it, is the smallest web-footed bird. It has so much oil in its body that the people of the Faroe Islands use it as a lamp, by putting a wick through its body.

No. 176.

### THE GOLDEN PHEASANT.

BEFORE noticing this particular kind of Pheasant, we will say a word for the one with which we are best acquainted. The rich gleaming brown plumage, and the long tapering tail of the Common Pheasant, makes the bird a noticeable member of our feathered friends. Its fate is the same as that of the Partridge and Grouse. The Golden Pheasant comes from China;



No. 176.—THE GOLDEN PHEASANT.  
H

and no picture can give a really good idea of its gorgeous feathers. It must be seen to be admired, and the bird's natural shyness makes this somewhat difficult, as it has not any pride in its own beauty, and would willingly dispense with the admiration which its magnificent plumage cannot fail to claim.

No. 177.

### THE CUSHAT OR RINGDOVE.

THE Ringdove is the largest of our native pigeons, and is very common in England, where it builds its nest of a few sticks on a branch of the fir or



No. 177.—THE CUSHAT OR RINGDOVE.



holly tree. So carelessly is this structure put together that the white eggs may be seen through it. The feathers of the Ringdove are mostly grey, and a blackish ring round the neck gives it its particular

name. The Ringdove's note is very soft and pretty; its gentle "coo, coo," is heard in our woods, and its soft soothing sound is particularly pleasing to our ears, for it seems to be the very essence of calm and repose.





## DIVISION I.—ZOOLOGY.

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### PART IV.—REPTILES.

REPTILES are creatures that move in a very singular and peculiar manner, by either creeping or gliding. These reptiles may be divided into two principal groups, of which one contains all those creatures of this order which have feet, such as lizards; while to the other group may be assigned all such footless creatures as snakes. There are many varieties of reptiles in each of these two groups.

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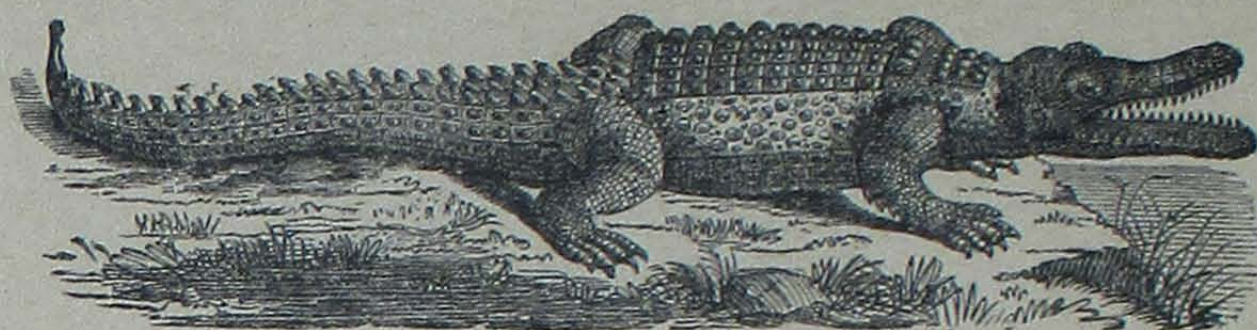
No. 178.

#### THE CROCODILE.

HERE this creature is represented as he may really be seen on the banks of the Nile. It is not satisfied with only fish, dogs, and other animals, but even men fall victims to its terrible death-bringing jaws. It is not difficult to escape from the Crocodile on land, as its neck is

short, thick, and not easy to turn about, so that agile persons may save themselves by their own activity. The eggs of this creature are very small, and are laid in large quantities. In America there is a kind of Crocodile called the Alligator, or Cayman. It also lays its eggs in the sandy banks of the rivers, where fortunately most of them are destroyed before the creatures get old enough to leave





No. 178.—THE CROCODILE.

their native spot. Birds, beasts, and even *grown-up* alligators, devour the eggs.

No. 179.

### THE COMMON CHAMELEON.

It is pleasanter to think about creatures which, although not handsome, are harmless; such a creature is the Chameleon. It lives in Africa, and is seen moving about on trees in a grave and solemn manner; but it darts its long tongue out after flies

and insects so quickly that the tiny things are caught and eaten before the movement can be seen; and it is for this reason that Chameleons were formerly supposed to live on air.

No. 180.

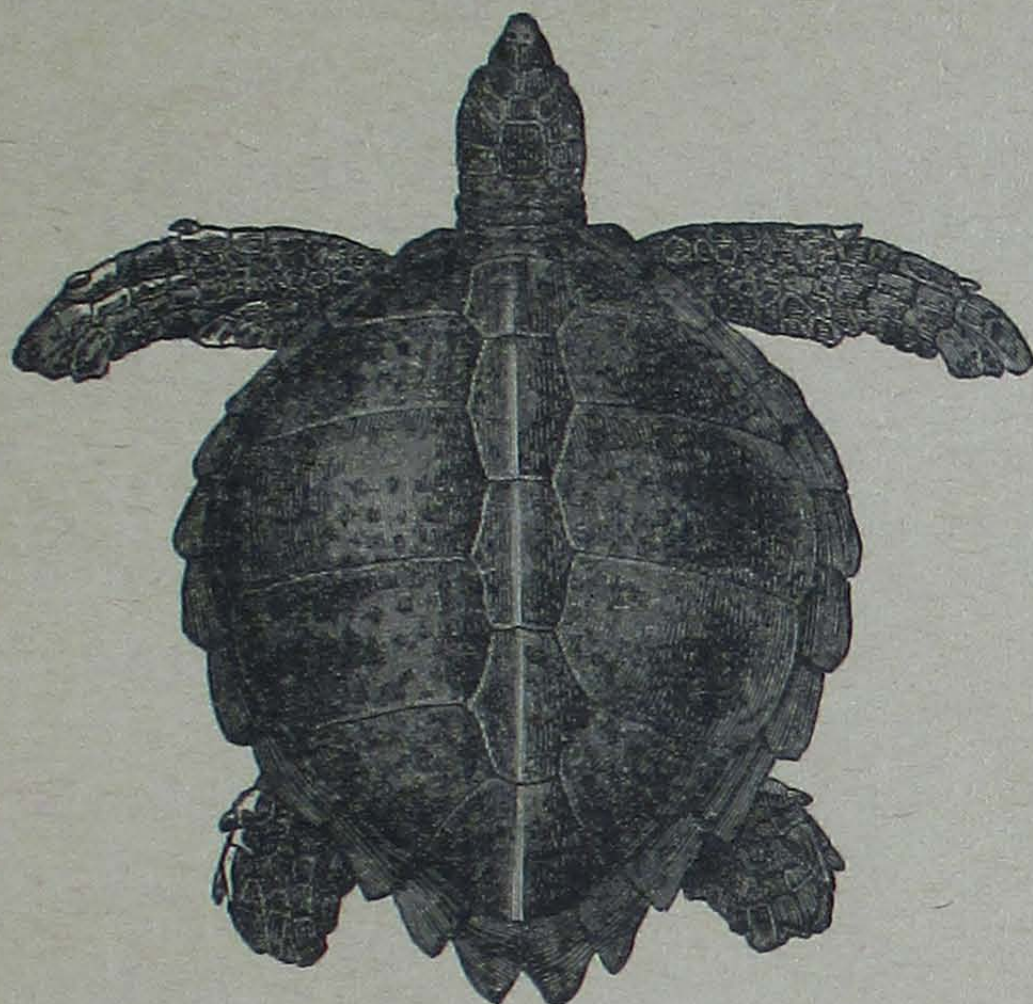
### THE COMMON GREEN TURTLE.

TURTLES have flippers instead of feet, so that they are very bad walkers; indeed, they are able only to shuffle about on land. These



No. 179.—THE COMMON CHAMELEON.





No. 180.—THE TURTLE.

flippers are of great use in scooping up the sand where they lay their eggs, and then covering them up again; these eggs are found in large numbers, nearly two hundred in one nest. They are very good to eat; the "white" never gets hard. The flesh of Green Turtles is much liked. The creature lives in Jamaica, and most of the islands of the East and West Indies, and is not difficult to catch. When once it is seized and turned on its back it cannot escape, as its shell is so heavy, and its flippers are so short in comparison. The Green

Turtle has been known to grow to so large a size that its weight was five or six hundred pounds. Its thick shell is not of much value. Tortoise-shell is chiefly the shell of the Hawksbill Turtle, not our large green friend.

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No. 181.

### THE BASILISK.

THE Basilisk is a kind of lizard, and very ugly it is, as ugly as it well can be; but it has the charm of being perfectly harmless. It creeps about,





No. 181.—THE BASILISK.

and is a good climber; it also swims very well. Its food is small insects. The ugly looks of this reptile gave it a bad reputation in former times; but now that its habits are known its real nature is no longer hidden. We can overlook its outward appearance when we consider that it does us no harm whatever.

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 No. 182.

### THE CRESTED NEWT.

THE Newt is as harmless as the Basilisk. It is olive-brown with dark

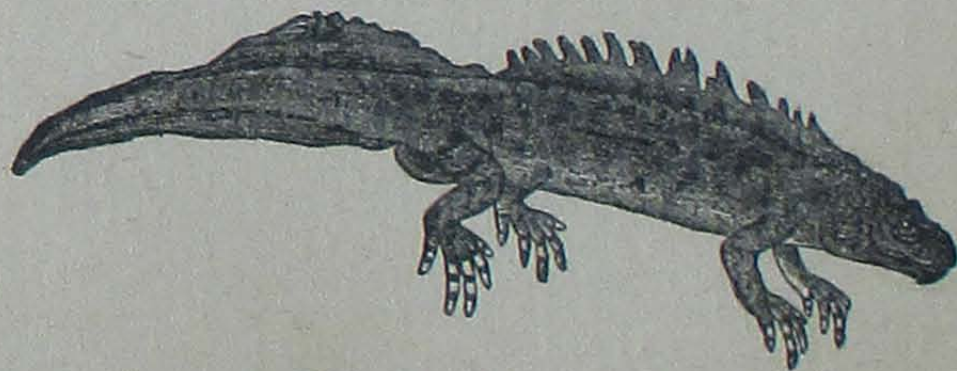
spots; underneath it is orange-red with black spots, and the creature's sides are spotted with white. The ridge on its back gives it the name of the Crested Newt. It is hatched like the Common Tadpole, and lives in ponds and ditches.

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 No. 183.

### THE TORTOISE.

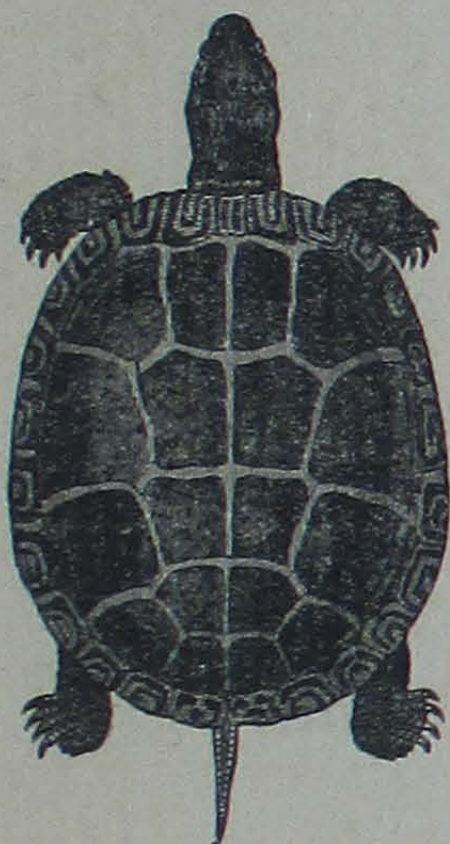
TORTOISES live on land, and are like small Turtles. Quantities are found in the south of Europe; and the creatures are often kept tame, as they are



No. 182.—THE CRESTED NEWT.



gentle, and do no harm. They are very long-lived, having been known to attain the great age of over two hundred years. Although they move so slowly, they can burrow with unexpected rapidity.



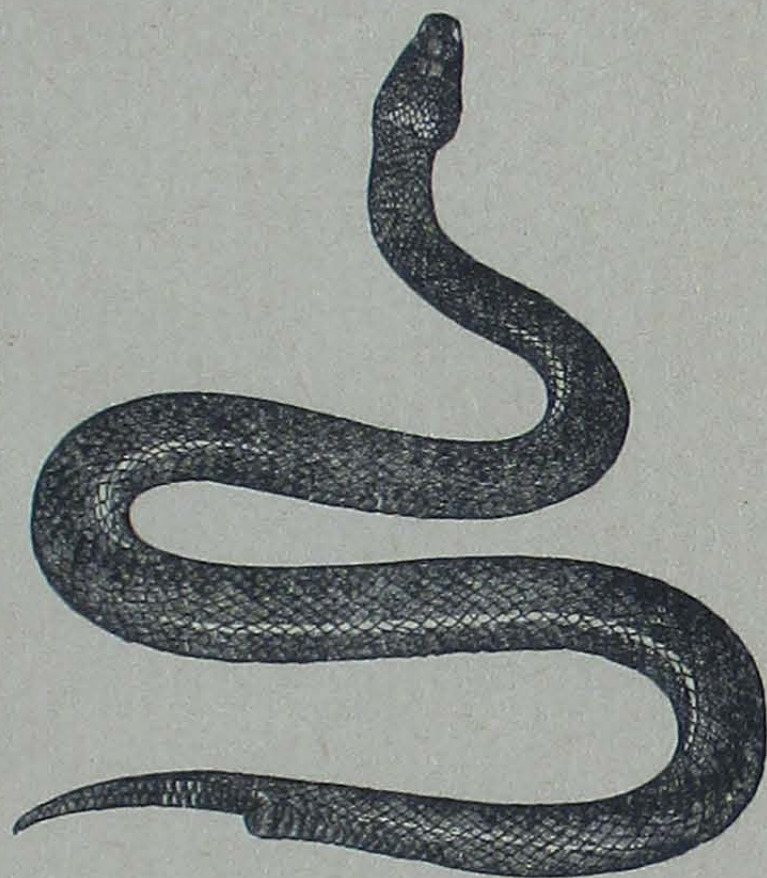
No. 183.—THE TORTOISE.

No. 184.

### THE COMMON ADDER.

THIS snake is the only poisonous one of its kind found in England. Its bite is dangerous, but not fatal if proper care is taken, and the right remedies, such as heated olive-oil, are applied. Its food is frogs, lizards, and other small animals, which it eats greedily. We know the Adder by the name of Viper; and we feel quite enough of

dislike and dread for this gliding creature to be able to understand the horror that is felt at such formidable snakes as the Boa Constrictor, the Cobra di Capello, and many others very common in warmer countries.



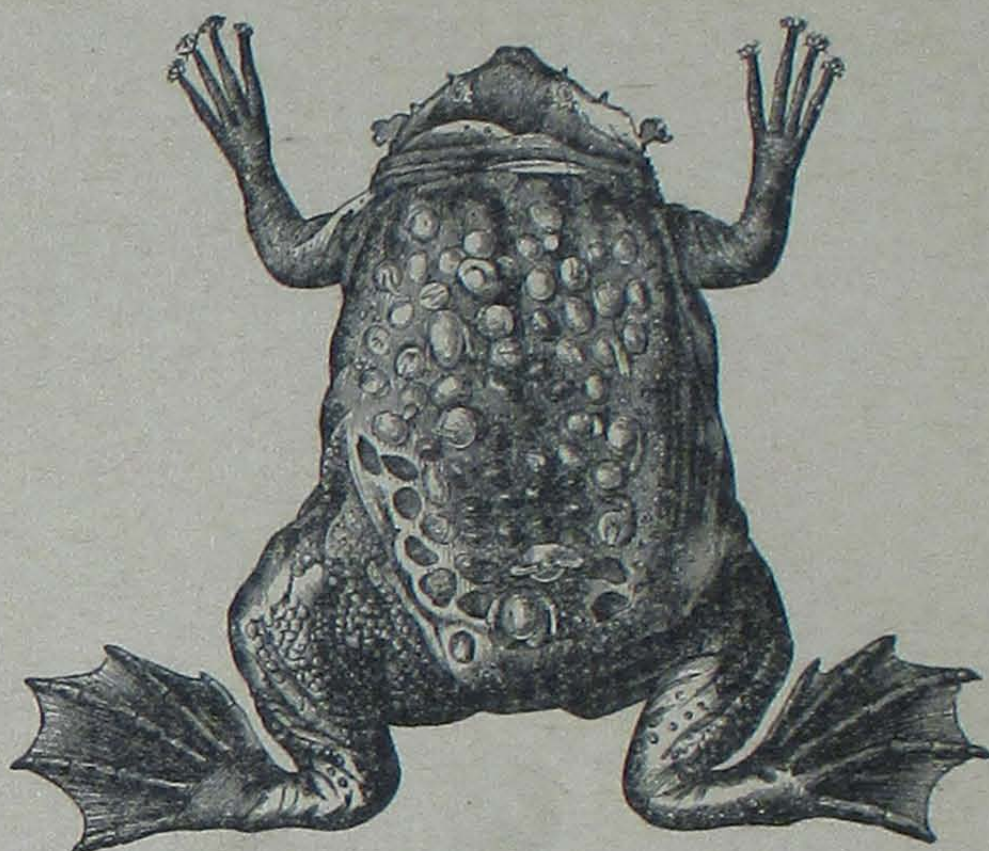
No. 184.—THE COMMON ADDER.

Nos. 185, 186, and 187.

### THE TOAD AND THE FROG.

TOADS used to be regarded as most venomous creatures, and they have no beauty except in their bright eyes. Toads are easy to tame, and will come regularly to be fed. They cast their skins at certain times, as Snakes do,





No. 187.—THE SURINAM TOAD.



No. 185.—THE TOAD.

but swallow their old clothes! Of all the frog tribe the Surinam Toad (No. 187) is the most repulsively ugly. The eggs are hatched on the creature's back, which is of a brownish - olive colour, the under part being white.



No. 186.—THE FROG.

No. 188.

### THE GREEN-TREE FROG.

NOW we must describe one rather more attractive frog (No. 188), the Green-Tree Frog. It is a climber, and clings to branches and under



leaves. It lives on insects, like its relations, and is very tenacious of life. Its colour is green, with olive-green spots, and greyish-yellow streaks along its sides.



No. 188.—THE GREEN TREE FROG.



No. 189.—THE SALAMANDER.

No. 189.

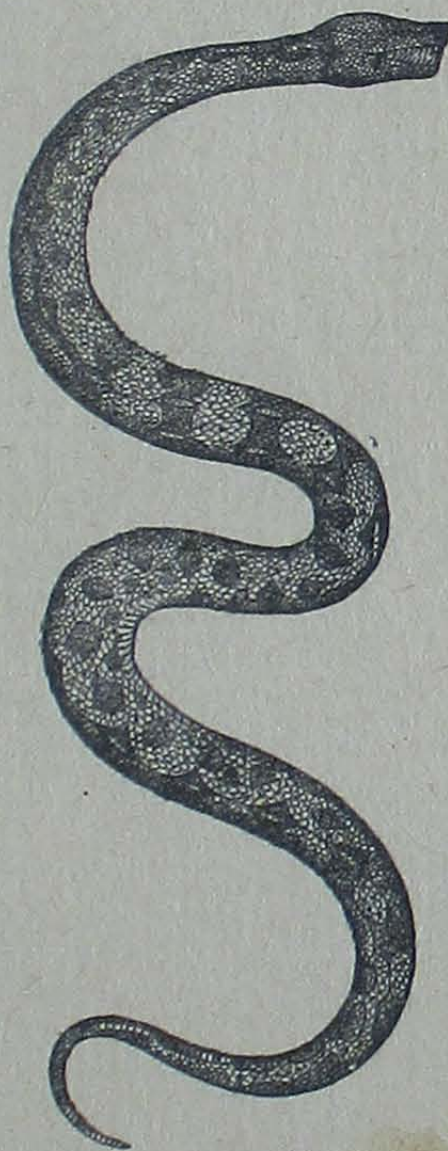
### THE SALAMANDER.

ANOTHER creature of the lizard kind is here seen; it is also quite harmless. The colour is black with yellow spots. The Salamander buries itself in hollow trees in the winter, as it does not like cold. It feeds on insects.

No. 190.

### THE BOA CONSTRICTOR.

THE length of this most fearful serpent has been known to be more than twenty feet. It lives in tropical America, and this is how it secures



No. 190.—THE BOA CONSTRICTOR.



it watches for some animal that may come to drink. The unsuspecting creature gets near its dreadful enemy, which lies securely hidden. With one spring the Boa Constrictor fixes its teeth in its victim's head or throat, and then coils tightly round it, until it is crushed into a shapeless mass. The Boa swallows its prey gradually, and then lies in a state of torpor for nearly a month. It will even attack, kill, and eat buffaloes, which will give us a fair idea of its terrible strength and power.

No. 191.

### THE PROTEUS.

THIS very strange creature comes from Germany, and but very little is known about it. It does not like light, and its eyes are hidden under its skin. The colour is a pale flesh tint, with a wash of grey. It is a foot in length.



No. 191.—THE PROTEUS.

Nos. 192 and 193.

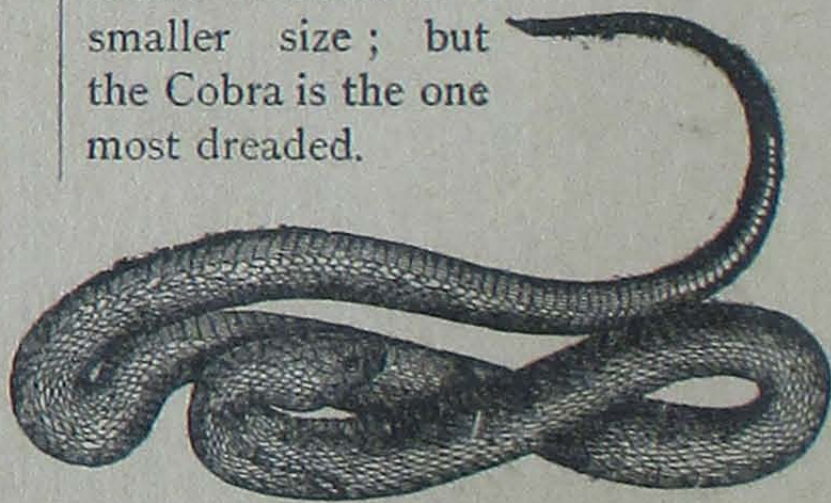
### THE COBRA DI CAPELLO.

INDIA is the native land of the Cobra. It is a hooded snake. When roused, it can expand and raise the skin at the back of its neck like a hood. This snake is poisonous; it is from five to six feet long. The natives of India sometimes catch the Cobras and take out their poison-fangs, and then exhibit them. At the sound of a pipe



No. 193.—HEAD OF COBRA.

carried by these snake-charmers, the Cobra rises, erects its neck, and displays its beautiful hood; when the music leaves off the snake instantly drops down, and is put back into its basket. There are many other deadly snakes in India of a smaller size; but the Cobra is the one most dreaded.



No. 192.—THE COBRA DI CAPELLO.



## DIVISION I.—ZOOLOGY.

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### PART V.—FISHES.

As a large portion of the surface of the earth is covered with water, so there are very numerous creatures which have been made expressly suited to live in that element. These creatures are Fishes; and their families may be divided into two great groups, of which one inhabits the fresh water of rivers, lakes, small streams, and ponds, while the other group comprehends the inhabitants of the salt water of the great oceans and seas.

Fishes are cold-blooded animals, and their blood is purified by the water passing through their gills. They move by means of their tails, and their fins balance them in the water and guide their movements.

In the beginning, the creatures that live in the waters were the first of the animal races that were "created and made."

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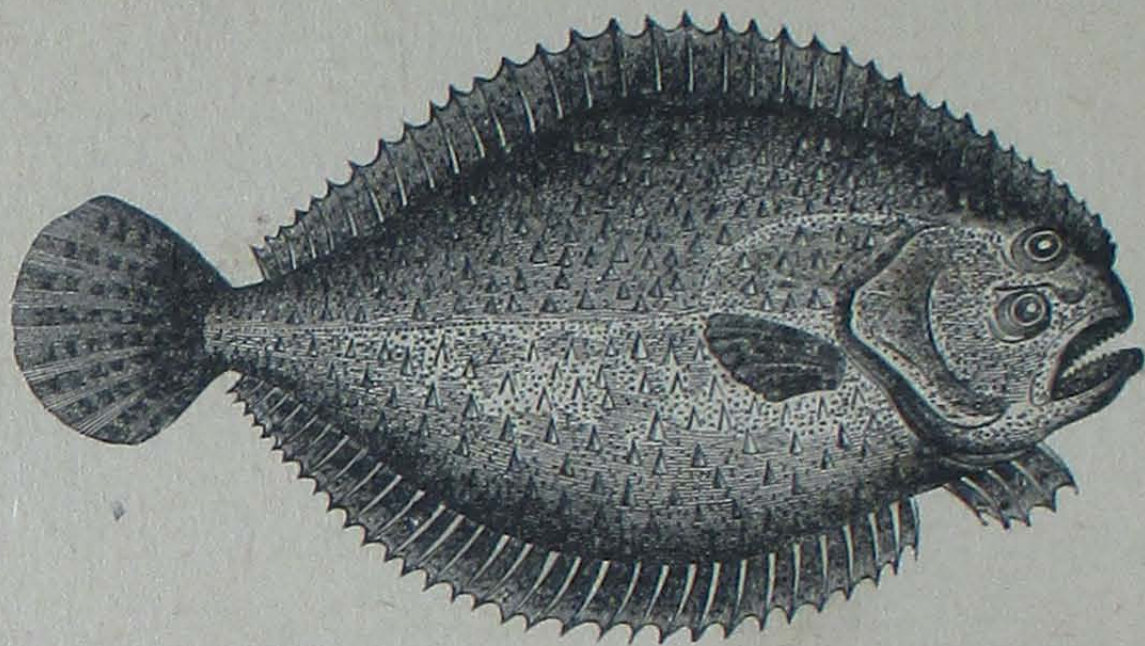
No. 194.

### THE TURBOT.

THERE are many other varieties of flat fish beside the three we are about to describe. The Turbot is one of

the largest, and is much valued, because it is so good to eat. This fish may be found on almost all parts of the coast of England; but the great turbot fisheries are on the southern coasts of Ireland. Both nets and





No. 194.—THE TURBOT.

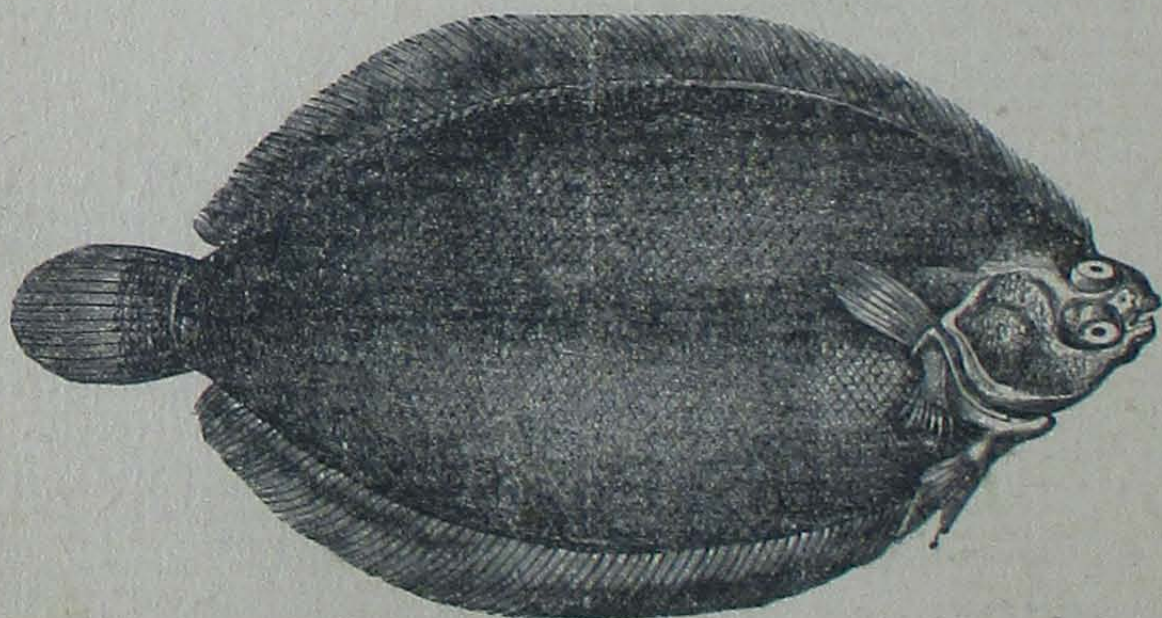
lines are used. When the bottom of the sea is too rocky or deep for the net, a very long line, sometimes three miles in length, is used; this line has 2,500 hooks fastened to it, baited with smelts, or other small fish. The Turbot is both voracious and dainty, and can only be tempted by fresh or bright-coloured bait. Like all other

flat fish, the upper side of the Turbot is dark, and the under side light coloured.

No. 195.

### THE PLAICE.

THIS fish rather reminds us of the sole at first sight; but it is much



No. 195.—THE PLAICE.

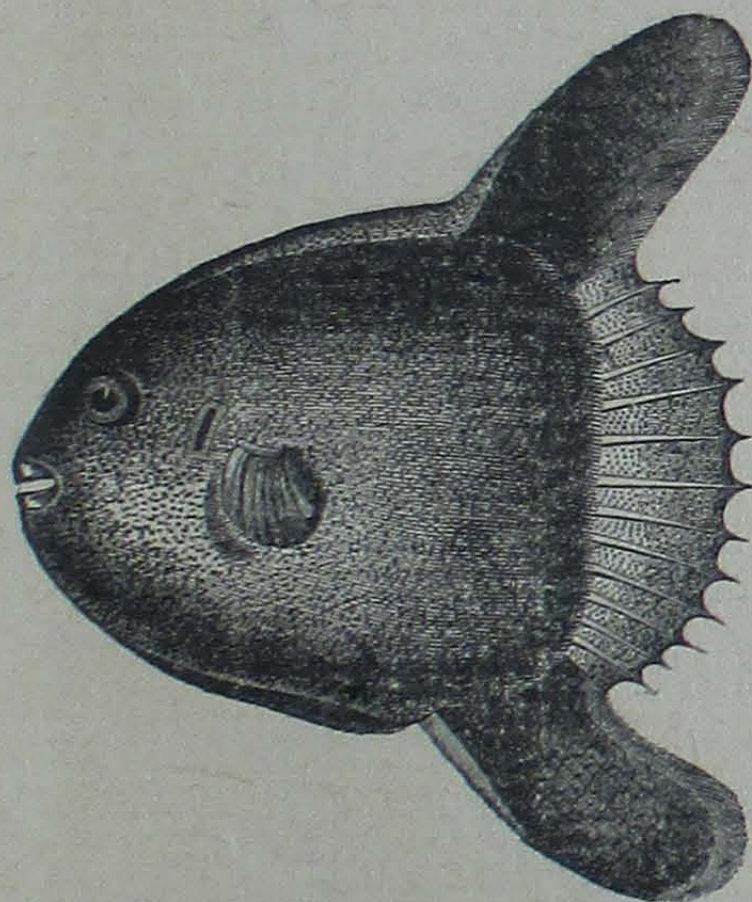


larger. There are many varieties of it, all good to eat ; but by no means so good as the Turbot. The Plaice has a very small mouth. It is brown above, and white underneath, and grows to about eighteen inches in length.

No. 196.

### THE SHORT SUN-FISH.

VERY peculiar in appearance is the Short Sun-fish ; it looks unfinished,



No. 196.—THE SHORT SUN-FISH.

or as if it had been cut off short, instead of having a proper length of body and tail to suit its large head ; indeed, it really has no tail at all, and its fins differ in shape from those of other fish, and are placed quite far back. It has been known to attain to the weight of three hundred pounds. The Sun-fish lives at the bottom of the sea, but often rises to the surface, and floats there as if asleep. Sailors are fond of trying their skill at harpooning this fish, and of course eat it, although it does not make a very tempting dish.

No. 197.

### THE EEL.

EELS are very like snakes ; but this is only in *look*, as they possess the two attractive qualities of being very good to eat, and of a harmless nature. They are found in muddy ponds and rivers ; but they can stay on land for some length of time, and often make excursions in search of frogs or worms, of which they are very fond. There are supposed to be four kinds of English eels—the sharp-nosed, the broad-nosed, the snig, and the grig.



No. 197.—THE EEL.

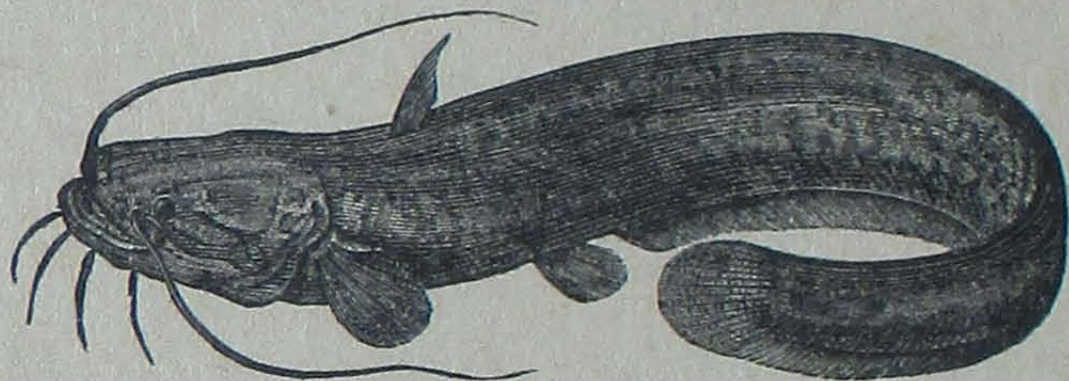


No. 198.

## THE SLY SILURUS.

THIS is the largest of European fresh-water fish, and is very rare in England, but common in Germany, Sweden, and Norway. It is about six feet long, and it weighs from two to three hundredweight; a formidable fish indeed, as far as size goes. It hides itself in the mud, and is good to eat.

to thirty-five pounds. Young ducklings, moor-hens, and even young swans, are seized by this large-mouthed and sharp-toothed fish, and when it is caught it will fight to the very last. Pike are common now in English rivers and ponds, and are angled for in a way called "trolling." A gudgeon, or large minnow, is fixed to a hook in such a manner that, when drawn through



No. 198.—THE SLY SILURUS.

No. 199.

## THE PIKE, LUCE, OR JACK.

MOST fierce and voracious is the Pike. It varies in size from two or three pounds' weight to fifteen or twenty, and has been known to grow

the water, it spins round and round, and so attracts the eye of the watchful pike.

No. 200.

## THE COD-FISH.

COD-FISH are caught on our own shores; but are found in great



No. 199.—THE PIKE, LUCE, OR JACK.

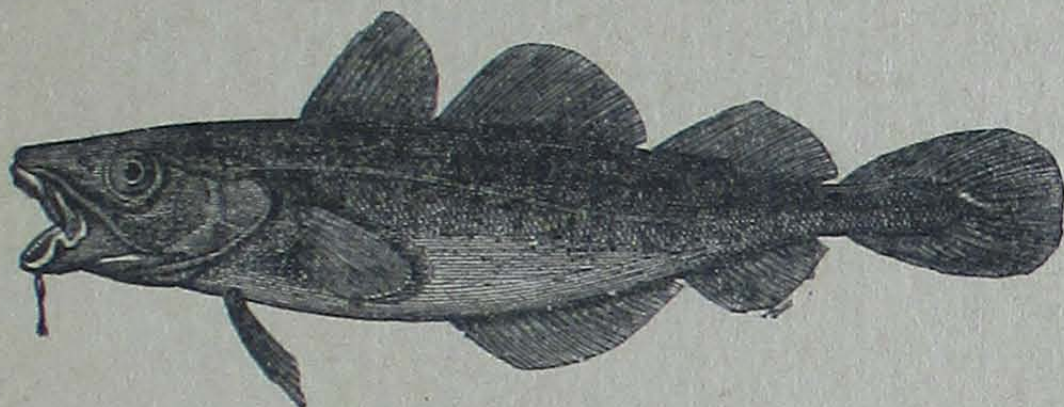


quantities on the coast of Newfoundland. The hook is generally used to catch this fine fish. To show how wonderfully this fish increases, it has been proved that the roe of

No. 202.

## THE COMMON CARP.

THAT fine and quaint old fisherman, Isaac Walton, says that the Carp is



No. 200.—THE COD FISH.

one fish contained nine million eggs! The Cod is a large fish, and its white flaky flesh is much liked as food.

No. 201.

## THE BURBOT.

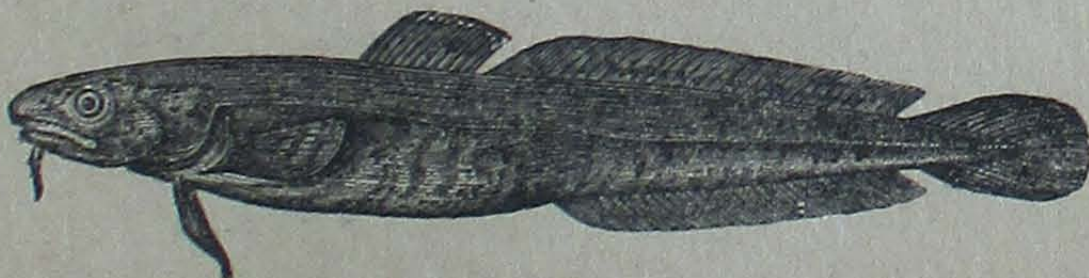
ALTHOUGH of the Cod family, the Burbot is a river fish; it is common both in England and on the Continent. It feeds at night, hiding under stones to look out for tiny fish and insects. It is very hardy, and is good to eat.

very sly and cunning, and therefore not easy to catch; it is more probable that this fish is slow to take the hook, because its nature is sluggish, and it is fond of plants as food. It has two "barbules" near its mouth. Its colour is olive-brown, tinged with gold. The Carp is a long-lived fish, and is large in size.

No. 203.

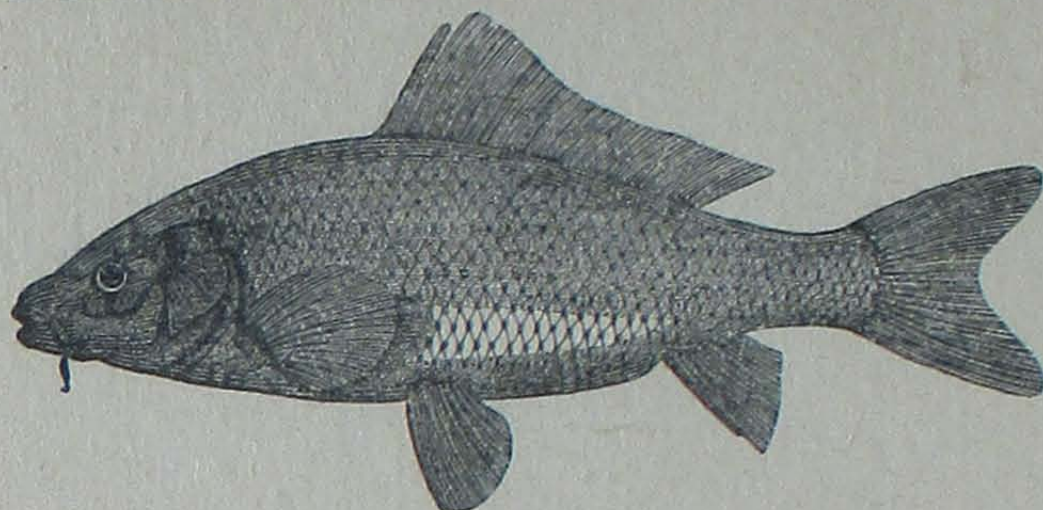
## A VARIETY OF THE SALMON FAMILY.

THIS fish is very likely the same as the Lochmaben Salmon, said to



No. 201.—THE BURBOT.

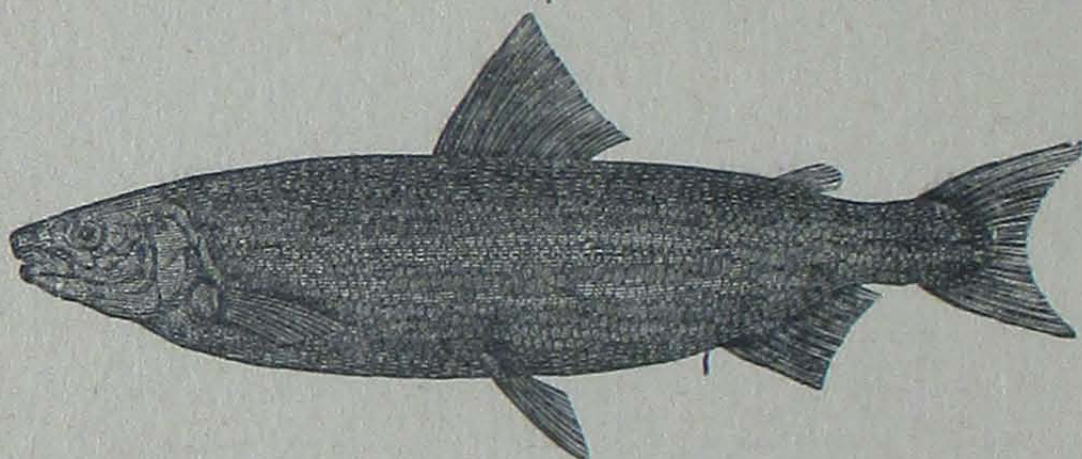




No. 202.—THE COMMON CARP.

have been introduced into the Scottish lakes by the unhappy Marie Stuart.

Scotland, when it comes in shoals, five or six miles long, and three or four broad. Quantities of sea-birds



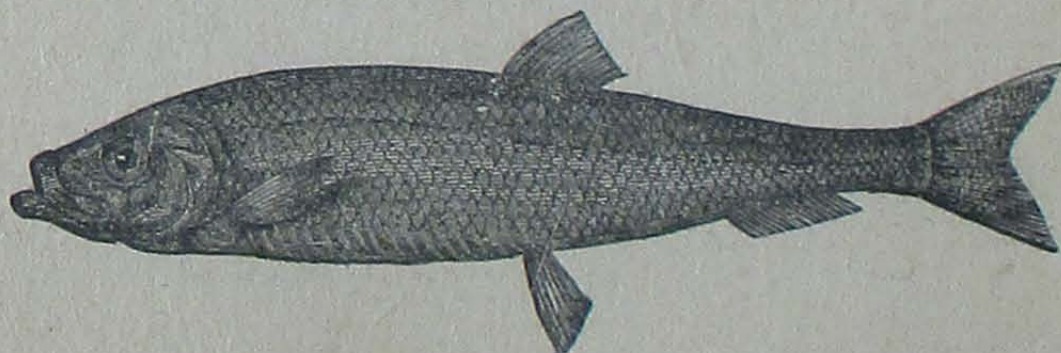
No. 203.—VARIETY OF SALMON.

No. 204.

### THE HERRING.

IN June the Herring makes its appearance on the northern coasts of

follow these shoals, and devour large numbers of the fish; but, in spite of this, the number of Herrings that are caught every year is almost incredible. The Herring fishery is carried on by



No. 204.—THE HERRING.



men in boats with nets ; the fish dies almost as soon as it is taken out of the water. Some are cured in the boat, and are then called "white herrings ;" the "red herrings" are those that have been brought on shore, and there smoked for twenty-four hours over a wood fire ; they are then "salted," a process which both kinds undergo.

No. 205.

### THE TENCH.

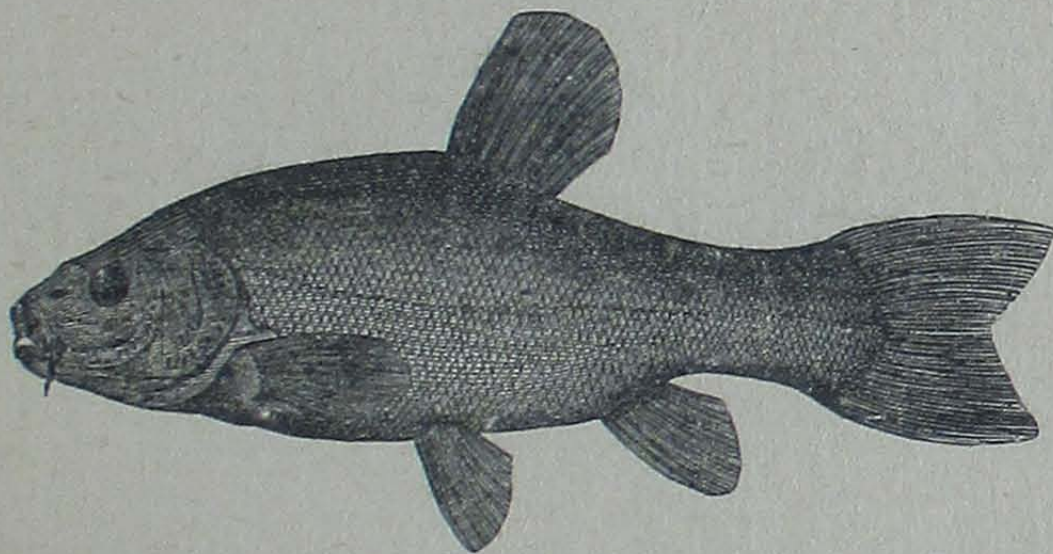
WE must go back to a very beautiful fresh-water fish. The Tench is rather

grow very thickly, and will remain content in the same place for a long time, unless disturbed, or forced to go away in search of food. The Tench is of greenish colour, with a golden tint on it.

No. 206.

### THE ANCHOVY.

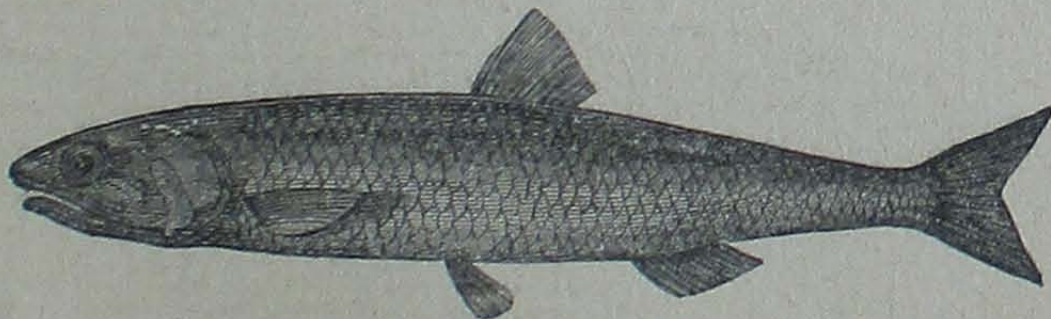
ANCHOVIES abound in the Mediterranean Sea, and may also be found on our coasts. These little fish are in great request in various pickled or preserved forms ; but I think we



No. 205.—THE TENCH.

like the Carp in its habits, but is even more lazy and sluggish. It likes the muddy banks of ponds where weeds

know them best as *sauce*. The whole length of the Anchovy is generally from four to five inches.



No. 206.—THE ANCHOVY.

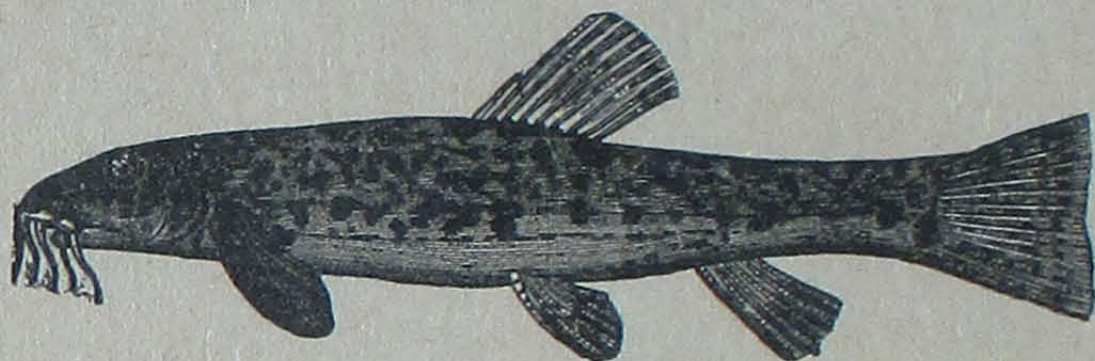


No. 207.

## THE LOACH.

THE names of "Beardie" and "Groundling" are also given to this fish, from the curious fleshy appendage to its lips, and its habit of living

back fin). In the pilchard this fin is so exactly in the middle of the fish, that if held by it it will be found to be exactly balanced; in the Herring the dorsal fin is placed nearer to the tail, so that if held by it the fish would hang head downwards. Pil-



No. 207.—THE LOACH.

at the bottom of the water. It has a peculiar tail, very broad where it joins the body. The Loach is a common fish, and may be caught in most streams.

chards are found on the shores of Devonshire and Cornwall, where they come in enormous shoals.

No. 208.

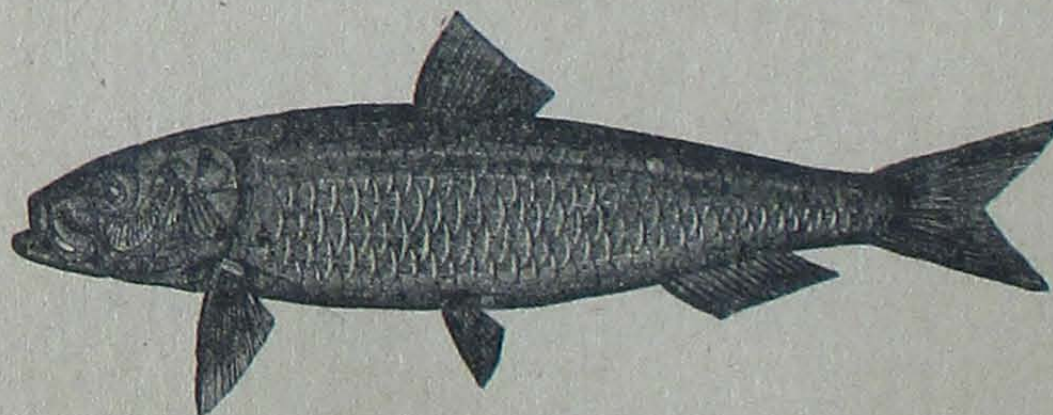
## THE PILCHARD.

THE Pilchard and the Herring are much alike; but may be at once distinguished by the dorsal fin (the

No. 209.

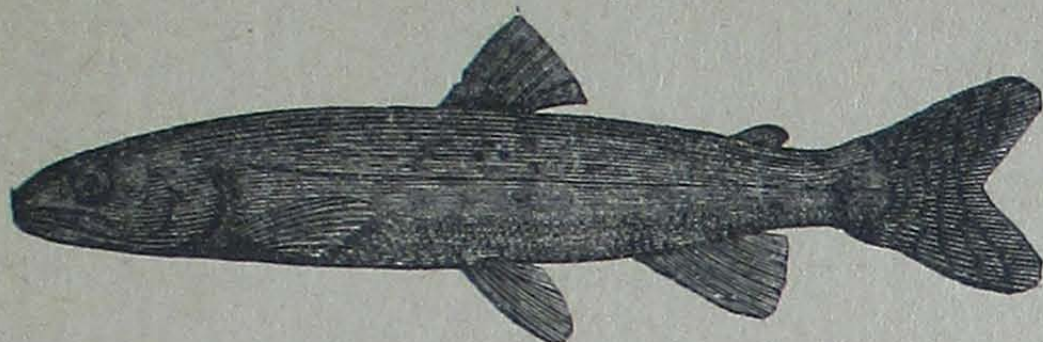
## THE GENEVA TROUT.

THIS is the famous trout of the Lake of Geneva. It is small, very pretty, and very good to eat. The English Charr is almost exactly the same fish.



No. 208.—THE PILCHARD.





No. 209.—THE GENEVA TROUT.

No. 210.

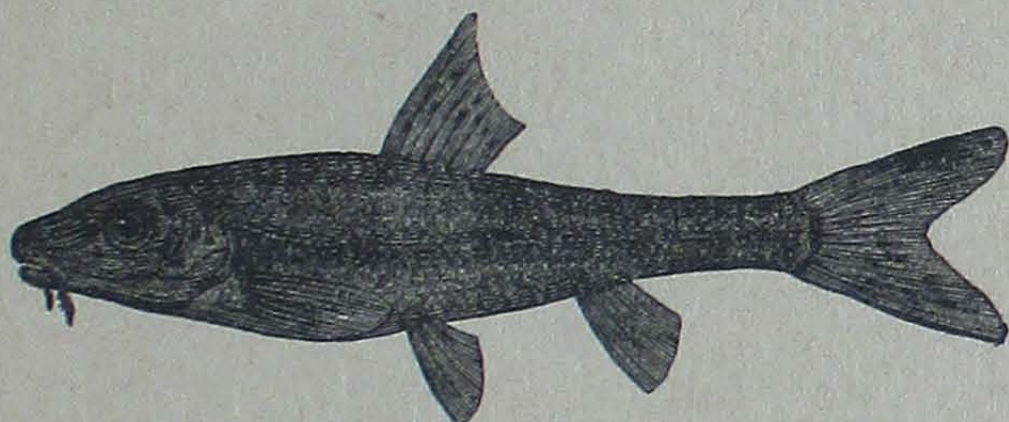
## THE GUDGEON.

THE Gudgeon is very common in rivers where the bottom is gravelly. If the gravel is stirred up, the Gudgeon at once come to the place, and may be

No. 211.

## THE SALMON.

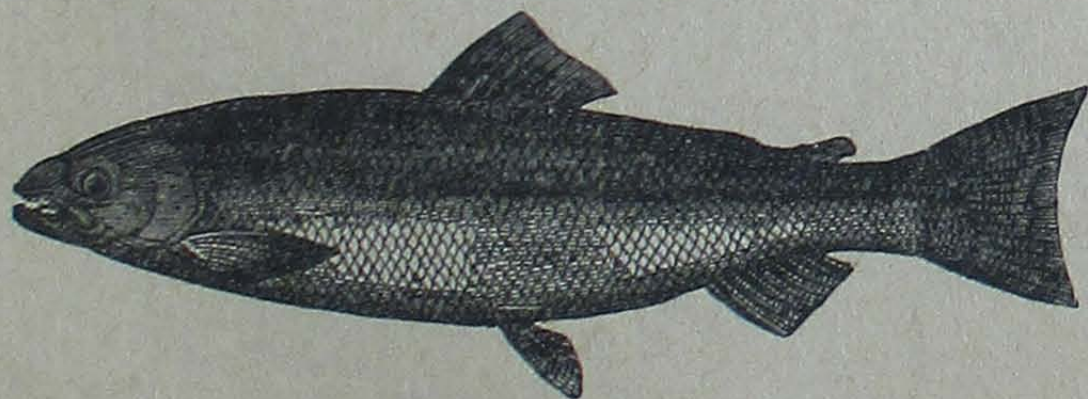
SALMON are migratory, that is, wandering fish. They leave the sea every year to go up rivers, and there deposit their spawn; they are so re-



No. 210.—THE GUDGEON.

caught in large quantities. Their flesh is very delicate, and is by no means to be despised. Gudgeon are rarely more than seven inches in length.

solute when discharging this duty that they leap waterfalls that may obstruct their course. When the young Salmon are hatched, they at once



No. 211.—THE SALMON.



begin their downward course towards the sea. Quantities of salmon are caught whilst in the rivers by stake-nets. Salmon-spearing was once a favourite and most exciting sport. It was carried on at night; a lighted torch was held close to the water, so that the least movement of the coveted prey was seen by the watchful spearman, and many a salmon was speared and lifted aloft in triumph.

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No. 212.

### THE GOLD FISH.

AT one time the Gold Fish or Golden Carp was thought a great curiosity in England; it originally came from China. Now it is quite common, and is hardy enough to live in ponds which in the winter are covered with ice. It increases in very large num-

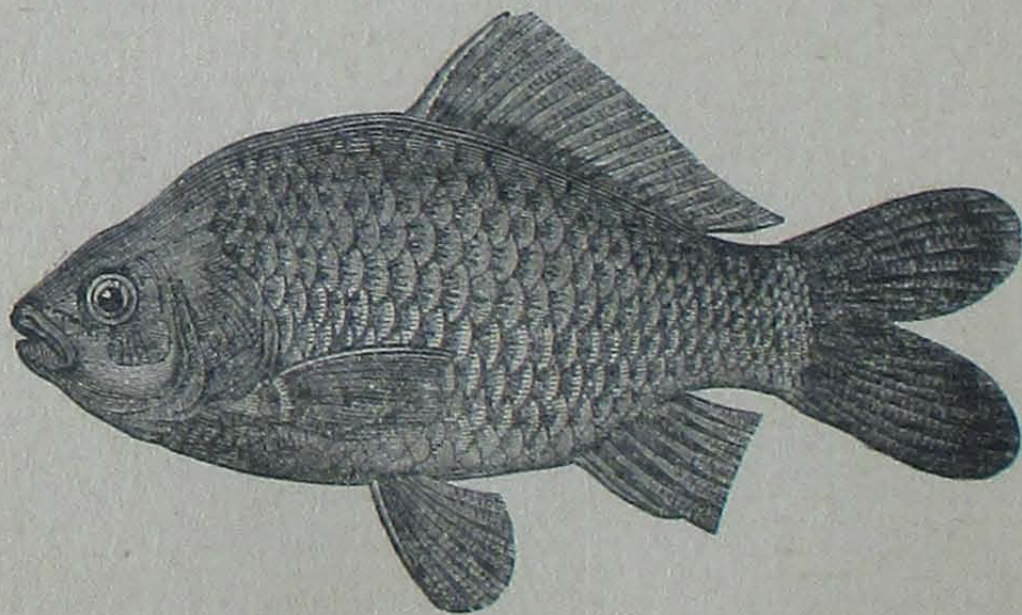
bers, so that the Gold Fish is not likely to become again a rarity; still we always admire its beautiful red and gold hues as it swims through the water. This fish never grows to a very large size.

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No. 213.

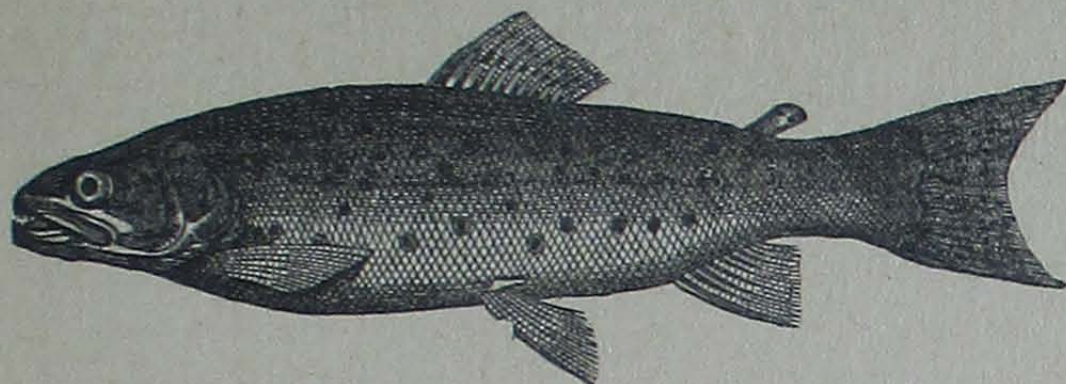
### THE TROUT.

THIS brilliantly speckled fish frequents rapid, shallow, and sparkling streams, particularly where there are little waterfalls. The rivers Derwent and Dove are famous for their Trout. In the shallower and more lively places the smaller Trout are seen darting about in every direction, whilst their more sedate elder brethren lie in the deep pools shaded by overhanging trees. Trout vary very much in size, some being only half a



No. 212.—THE GOLD FISH OR GOLDEN CARP.





No. 213.—THE TROUT.

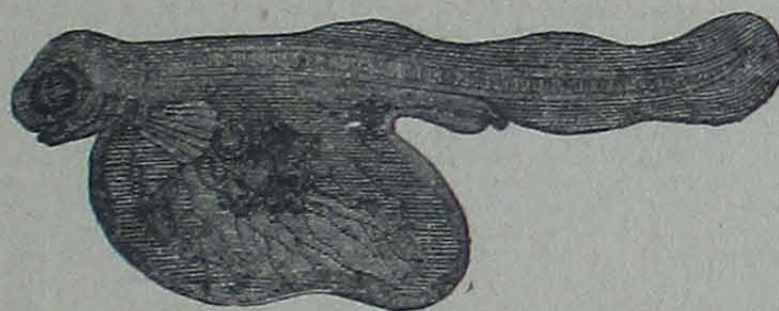
pound in weight, and about eight inches long, others from ten to fifteen pounds' weight. These fish are very good to eat, and are eagerly sought for by anglers of all ages.

No. 214 shows a young Trout, by

No. 215.

## THE STICKLEBACK.

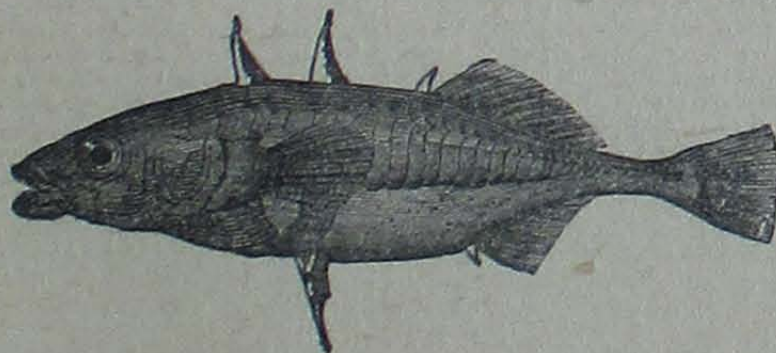
THESE pugnacious little fish, with their sharp spikes, are to be seen in small streams. When fighting they



No. 214.—YOUNG OF TROUT (three times natural size).

no means an attractive-looking object; it is scarcely yet a fish in shape, and certainly not a *Trout* in size, for the little creature in the picture is magnified three times its natural size.

show most brilliant colours, crimson, green, and gold; but if vanquished, they lose their bright hues directly, and change to a dull grey. They are so easily provoked, that they will even rush at a stick if it is put into



No. 215.—THE STICKLEBACK.



the water. These curious little fish build for themselves nests of sticks and rushes in the water.

No. 216.

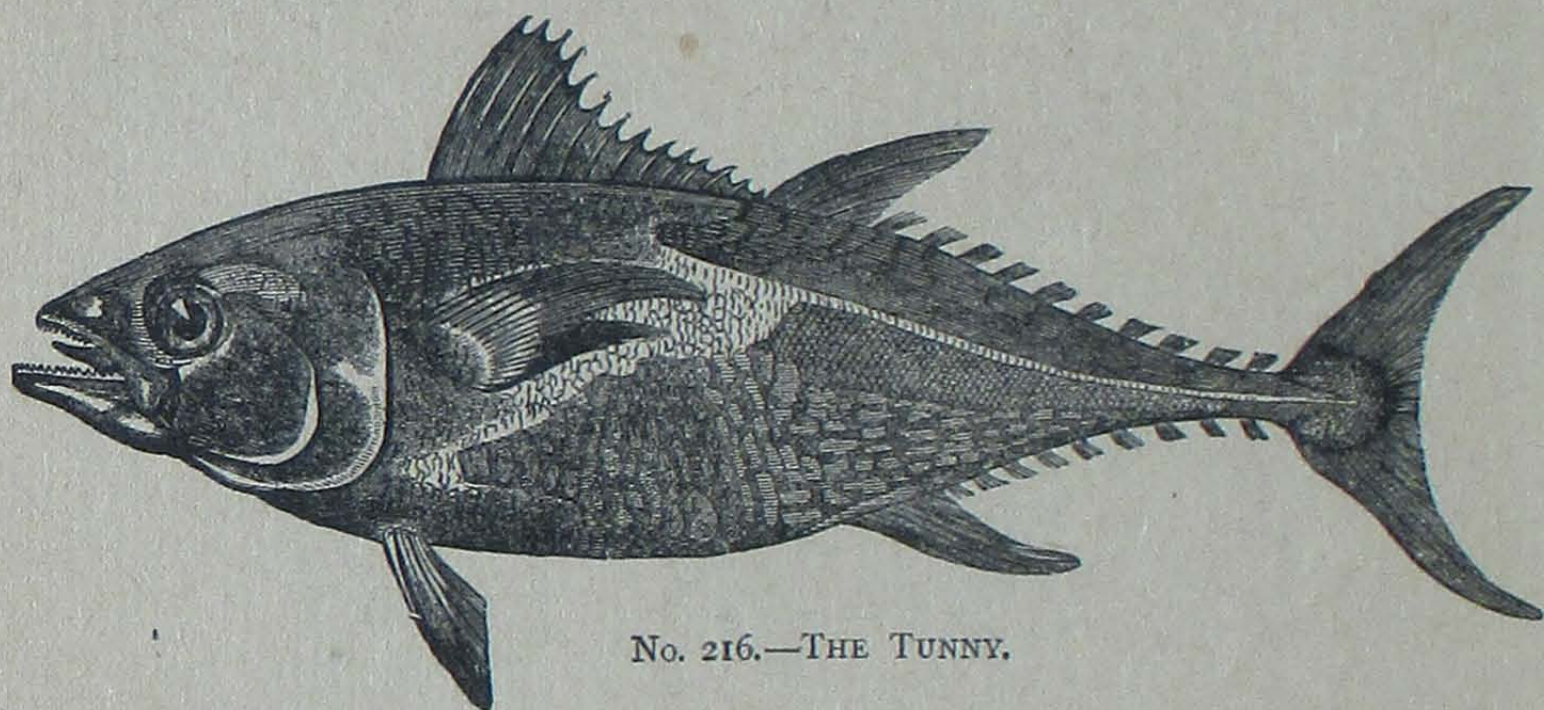
### THE TUNNY.

THIS is a sea fish, and rather a large one; it is about four feet long, and is

No. 217.

### THE MACKAREL.

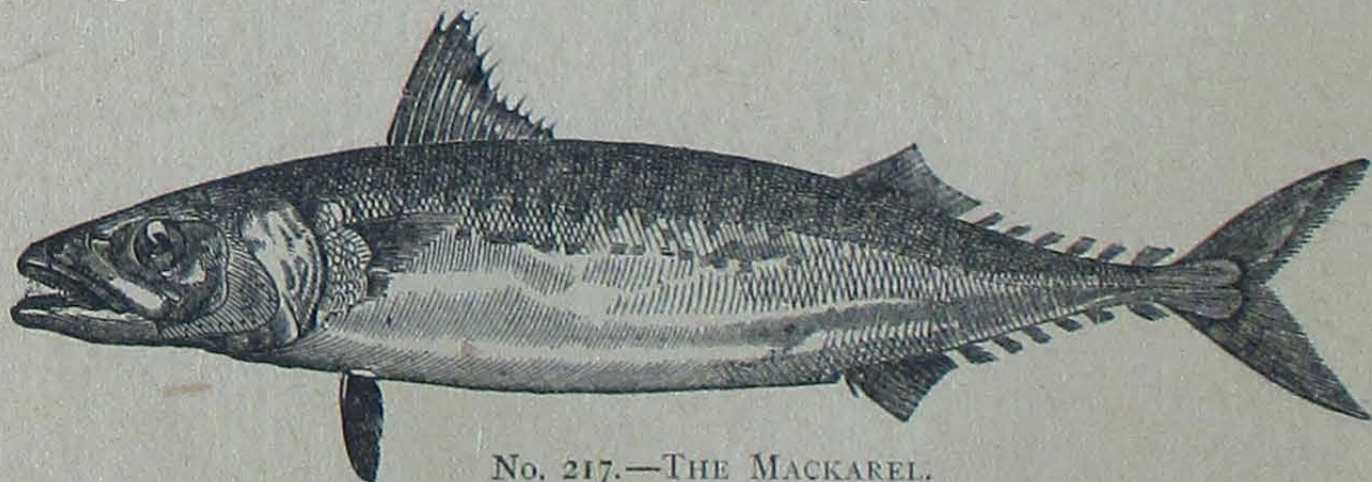
THE Mackarel is a beautifully coloured fish, and is very valuable as food; it comes to our coasts in large shoals, and is caught in great numbers. Both nets and lines are used in Mackarel fishing, the latter



No. 216.—THE TUNNY.

found in large shoals in the Mediterranean Sea in the months of May and June; they are caught in large nets. The Tunny is sometimes found on the English coast.

baited with a truly cannibal bait of a piece of dead Mackarel, or else with a bit of scarlet cloth. The nets are cast into the sea in a long line, over a mile in length, and then drawn along.



No. 217.—THE MACKAREL.

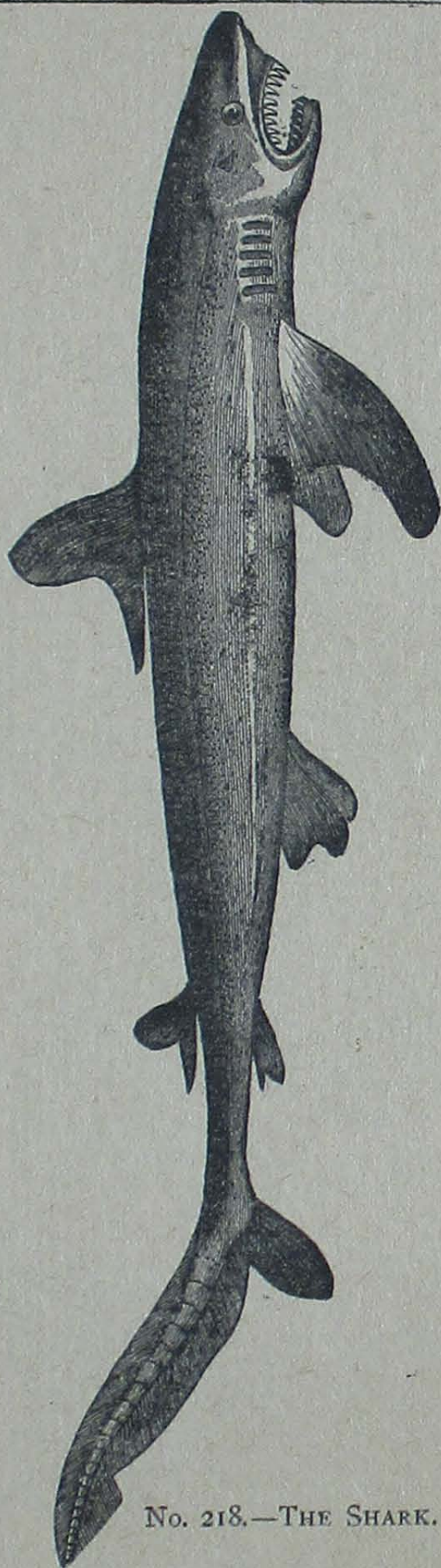


Sometimes the meshes of the net get quite choked up with fish, so that they are swept along in a solid mass, and the numbers caught in this way are enormous. Once the weight was so great that the net gave way, and the whole of the captive mass was lost. Mackarel must be eaten as soon as possible after being caught, since their flesh is very delicate, and is soon injured by being exposed to the air.

No. 218.

### THE WHITE SHARK.

A TRULY terrible fish is this; it is common to the Mediterranean Sea and the Atlantic Ocean. The White Shark is so voracious, that it has been known to swallow a man. Sailors show their detestation of this creature by treating it with every possible indignity and insult when caught, and generally amuse themselves with investigating the remarkable objects swallowed by the White Shark. A lady's work-basket with all its contents was once found in a Shark's stomach, and at another time a whole bull's hide. The creature snaps at anything; and with its large jaws, sharp teeth, and its quick movements, escape is no easy matter. We may, indeed, be thankful that our fortunate shores are not visited by such a cruel hungry monster as the White Shark.



No. 218.—THE SHARK.



No. 219.

## THE SAW-FISH.

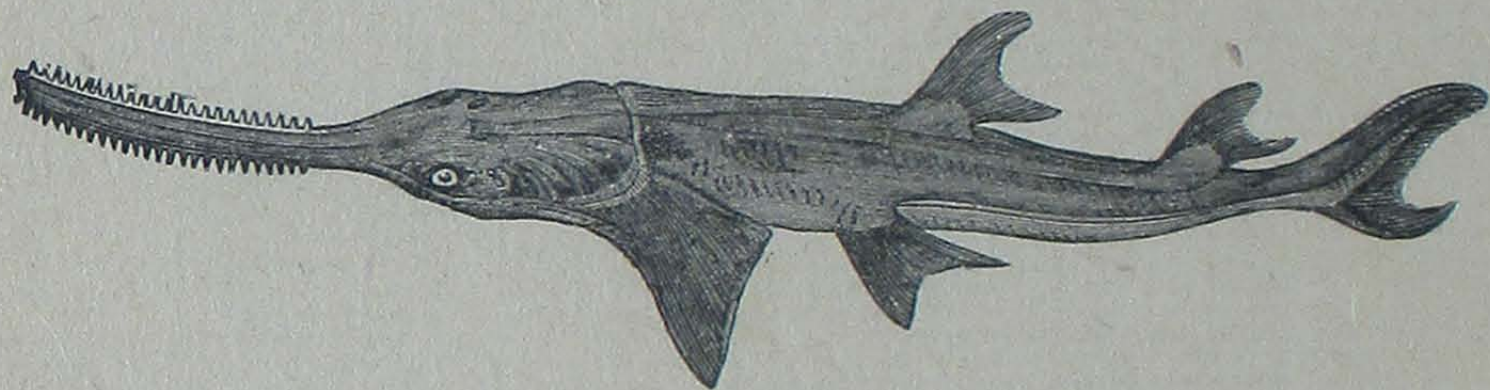
THIS is another inhabitant of the Mediterranean Sea, and of a large size. A Saw-fish was once caught which weighed nearly five tons, and was twenty-two feet long, in which case the catching was no easy matter, as the fish is immensely strong. This particular Saw-fish was first entangled in a net for some hours; at last a rope was firmly fixed round the curious *saw*-like projection from the

unsafe to go near the great fish, for it dashed about with the utmost violence, and would have given formidable blows with its saw. It was at last killed by a Spaniard, who cut through the joint of its tail.

No. 220.

## THE RUFFE.

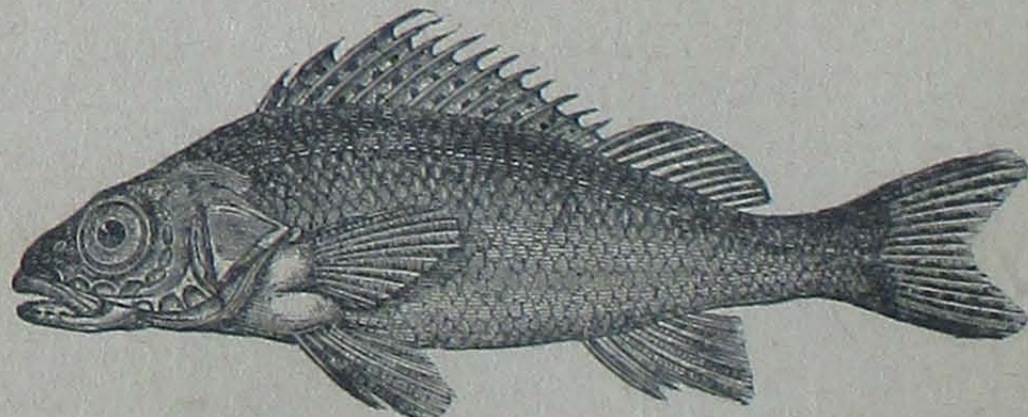
THE Ruffe is found in England, and in the rivers and lakes of Northern Europe, in large numbers. It is a



No. 219.—THE SAW FISH.

creature's head, from which it takes its name. A hundred men were pulling and hauling at this rope for nearly a whole day before they could drag it on shore; it was then most

beautiful little fish; its colour, golden olive-green, silvery below, with spots; its lower fins are whitish, tinged with red. It swims about in shoals, and is delicate eating.



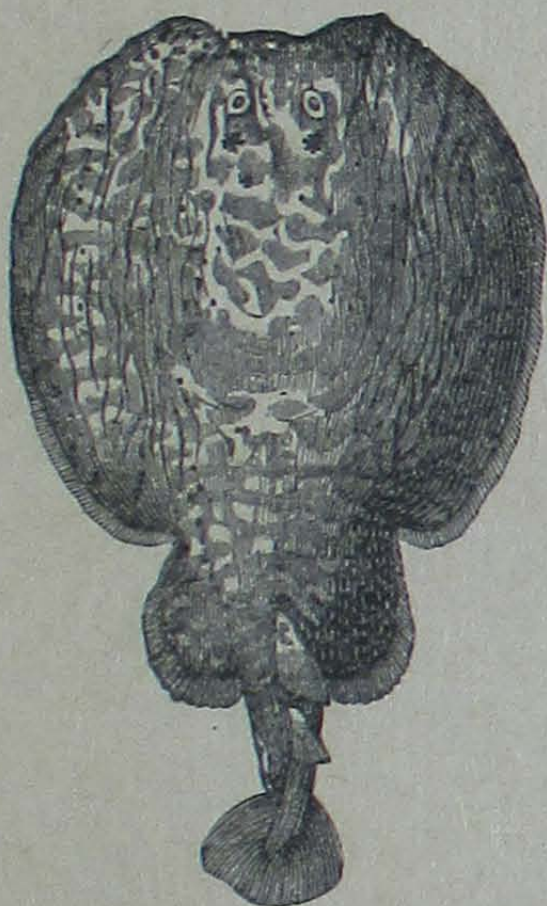
No. 220.—THE RUFFE.



No. 221.

## THE TORPEDO.

IN appearance this fish is strange enough, and its character also is very peculiar. It is one of the two fishes that have the power to electrify, the



No. 221.—THE TORPEDO.

Electric Eel being the other. A full-sized and strong Torpedo can give such a shock that a strong man would be disabled for the time.

No. 222.

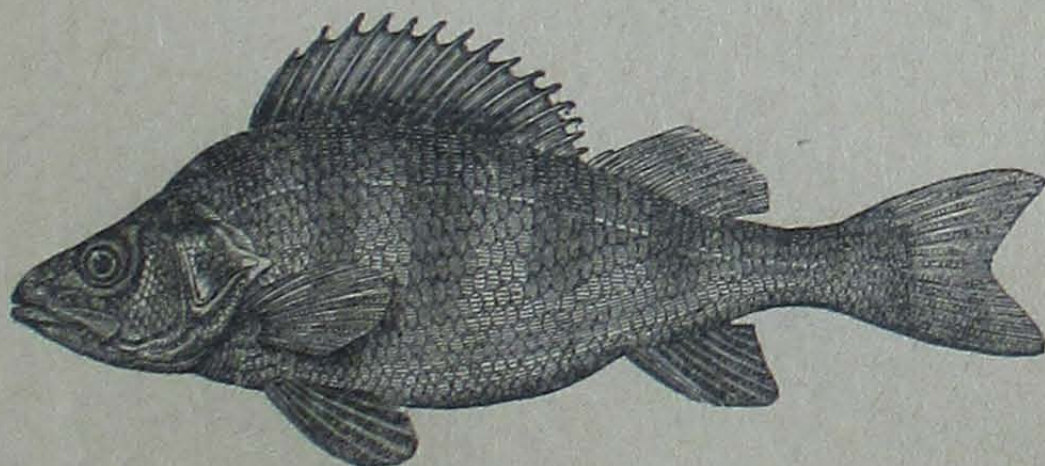
## THE PERCH.

THE Perch is a common and well-known fish, and second only to the Trout. It is the most beautiful of the inhabitants of our English rivers and ponds. It is remarkable for the sharp spines of its back fin, which are quite strong enough to wound the hands of an unwary person, and also for the delicate red stripes upon its sides. It is a very voracious fish.

No. 223.

## THE LAMPERN.

THE Lampern, or River Lamprey, is found in many English rivers. In



No. 222.—THE PERCH.





No. 223.—THE LAMPERN.

some countries it is called "seven-eyes," from the seven breathing holes in its neck.

twenty pounds in weight, and is good to eat.

No. 224.

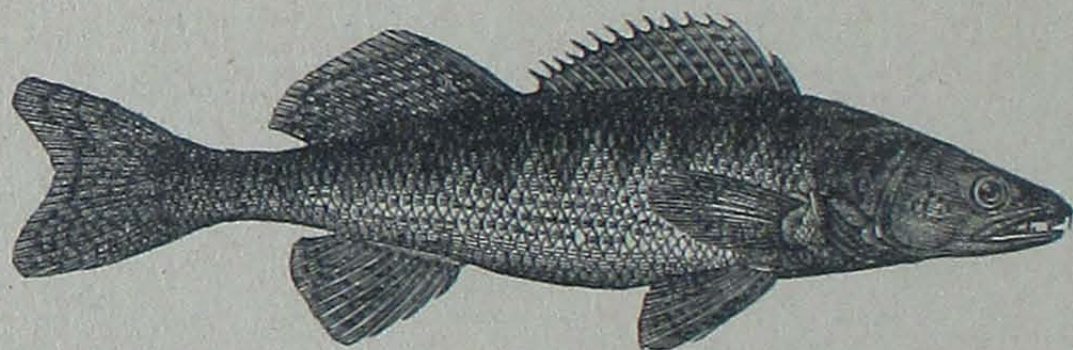
### THE PIKE-PERCH.

THIS fish is perch-like in colour, and pike-like in form. It is not a native

No. 225.

### THE GERMAN STURGEON.

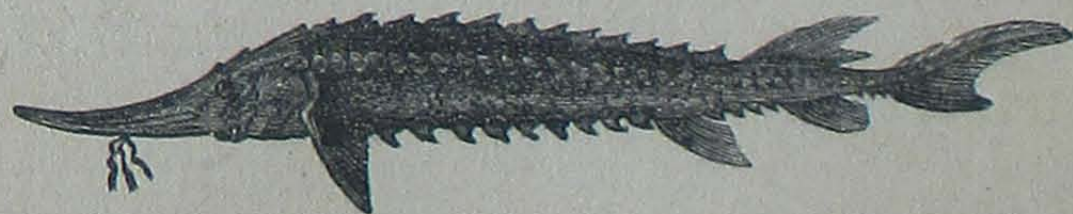
THIS particular member of the Sturgeon family is much smaller than the variety known to us in our seas—



No. 224.—THE PIKE-PERCH.

of England ; but is found in the rivers and lakes of northern Europe. It is from two to four feet long, about

the Royal Sturgeon, so called because whenever one was caught it used to be sent to the Queen.



No. 225.—THE GERMAN STURGEON.



## DIVISION I.—ZOOLOGY.

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### PART VI.—SHELL-FISH.

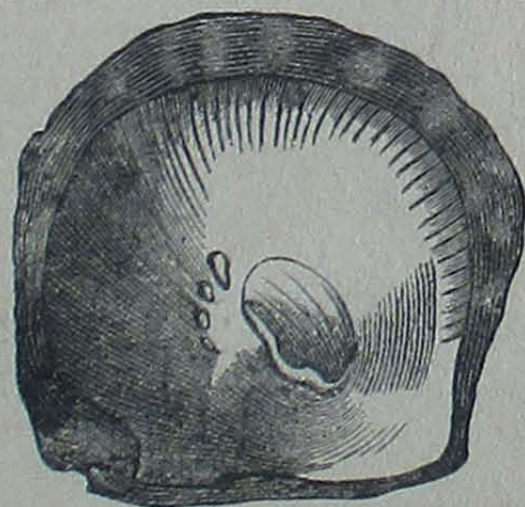
THE general title of MOLLUSCA, signifying *soft bodied*, was given by the great naturalist CUVIER to that grand division of the animal kingdom which comprehends creatures that are without bones and a spinal cord. Some of these creatures have no other covering than their own soft skin; others, of which some few examples are given in the next pages, have houses, called SHELLS, of various forms and colours, which they carry about with them.

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Nos. 226, 227, and 228.

#### OYSTERS.

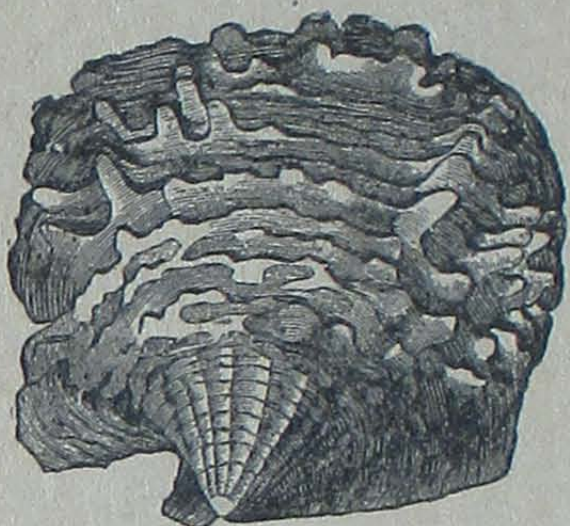
WHEN we see beautiful pearls, we may at first forget that their birth-place was an humble oyster-shell, far away in the deep deep sea. Famous pearl-fisheries are found off the coast of Ceylon, besides many other places. The fishermen are trained to stay



No. 226.—THE PEARL OYSTER—UNDER SHELL.

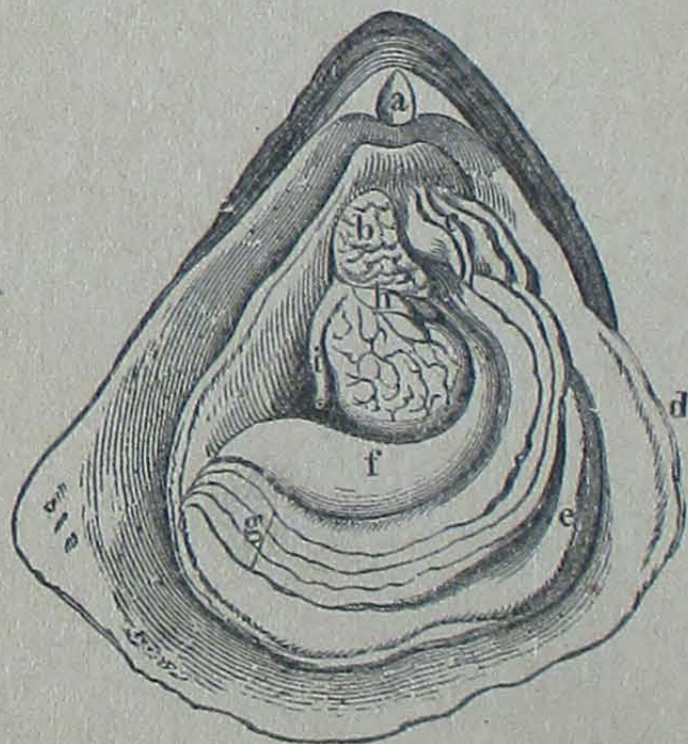


under the water a long time, while they quickly gather up the precious shells in baskets, after which the pearls are extracted.



No. 227.—THE PEARL OYSTER—UPPER SHELL.

In our picture the small letters point out the different parts of the oyster itself, and the shell—*a* the hinge; *d* the shell; *b* the liver; *c* *e* and *g* a kind of outer membrane, or



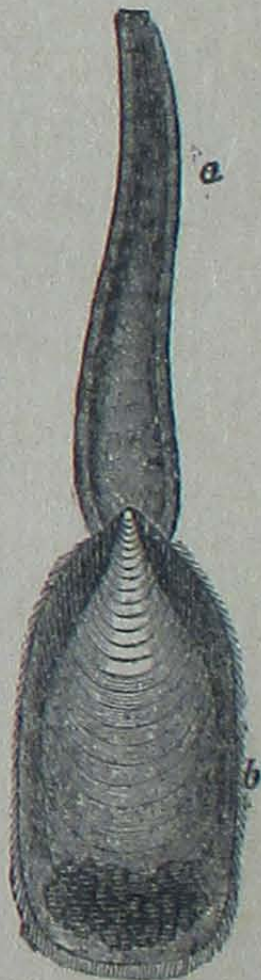
No. 228.—THE COMMON OYSTER.

*beard*; *h* the heart; and *i* and *f* parts of the inside of the oyster. There are large oyster-beds on our coasts from which the oysters are taken in a "dredge." Oysters are not fit to eat until they are four years old.

No. 229.

### THE LINGULA ANATINA.

THIS curious shell-fish is found in the Indian seas—*a* points out the *stalk*, or "pedicle," by which this Lingula attaches or moors itself to some object; *b* the shell, which is thin, horny, and of a greenish colour.



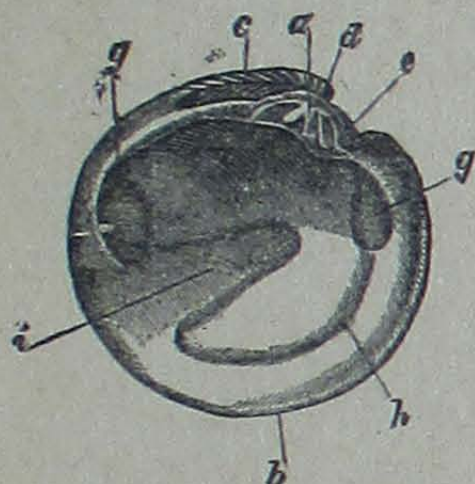
No. 229.—THE LINGULA ANATINA.



No. 230.

## THE VENUS SHELL.

THE picture shows the inside of the shell. It is always found in pairs, joined together by a natural



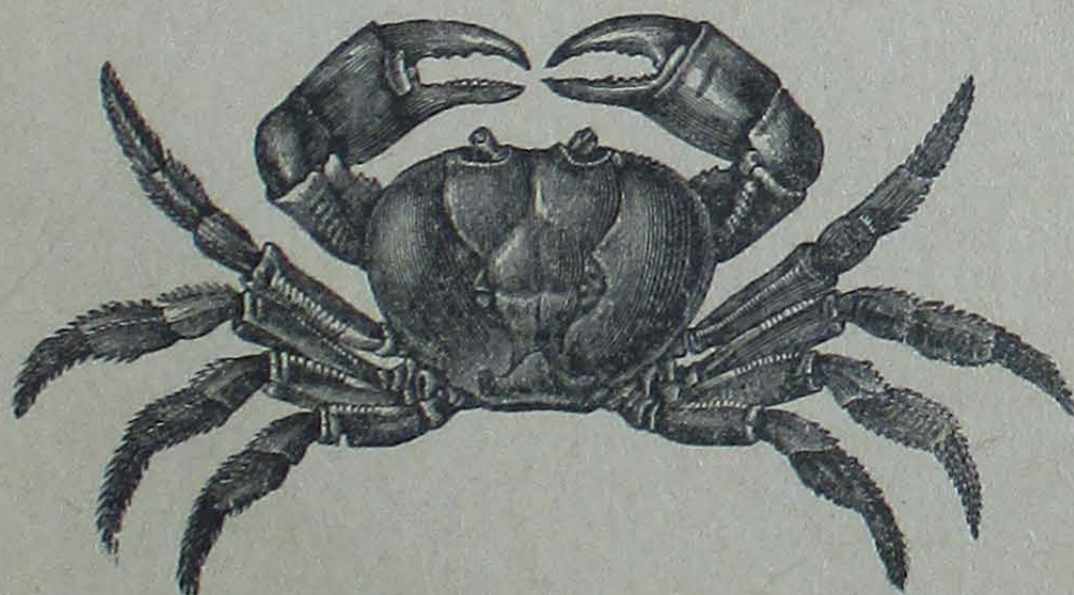
No. 230.—THE VENUS SHELL.

hinge, which is here marked *a e c* and *d*; *g h* and *i* point out the inner parts of the shell; and *b* the rim.

No. 231.

## THE VIOLET CRAB.

THERE is another name for this particular kind of crab, the Toulourou. It is found in the island of Jamaica—really *in* the island, for this creature goes down to the sea only once a year. The woods and higher lands are preferred by the Violet Crab for its residence, where it hides in its burrow by day, and comes out to feed at night. In July or August a most curious proceeding takes place: each crab lines its burrow with dry grass, leaves, and whatever else it can carry, then literally buries itself, and begins to change its skin; every atom of hard shell is cast off, and the crab comes out after some time in an entirely new suit. All other crabs, and all other creatures called *Crustacea* also change their outer coverings.



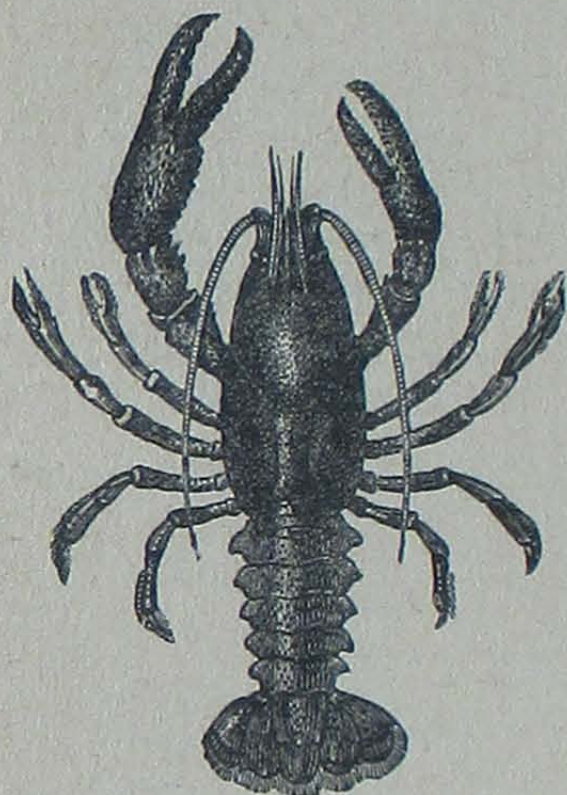
No. 231.—THE VIOLET CRAB.



No. 232.

## THE RIVER CRAY-FISH.

WE may find this River Cray-fish in the rivers and streams of our own dear island. It is rather like a miniature Lobster.



No. 232.—THE RIVER CRAY-FISH.

No. 233.

## THE SEA CRAY-FISH.

ALTHOUGH this Cray-fish sometimes weighs from ten to fifteen pounds, still it is far inferior to the Lobster; yet it is brought to the London markets in large quantities, and is in very general use for food.



No. 233.—THE SEA CRAY-FISH.

No. 234.

## THE COMMON CUTTLE-FISH.

THIS eight-armed creature is active and voracious, and creeps along at the bottom of the sea in search of small fish of all kinds; and woe be to them if they once get within reach of those greedy arms, for there is no chance of escape! Cuttle-fish possess a little bag of black liquid, which they can squirt into the water, and so hide themselves when pursued.



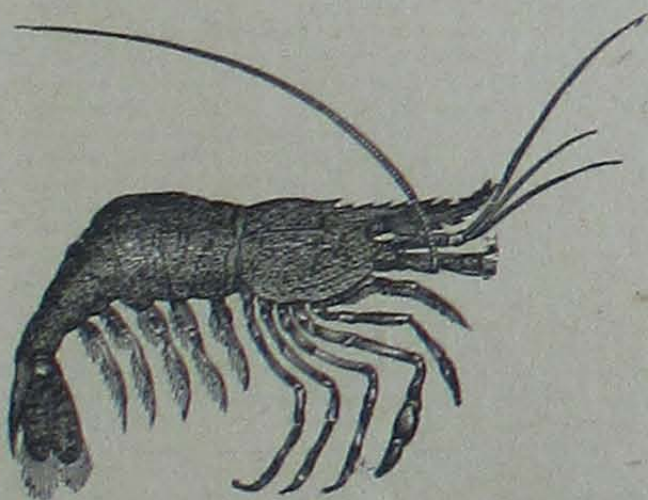


No. 234.—THE COMMON CUTTLE-FISH.

No. 235.

### THE SHRIMP.

IF we do not *like* shrimps, we are pretty sure to have *seen* them. When swimming about near the sand down under the sea, they are of a sandy



No. 235.—THE SHRIMP.

colour, and only get pink when boiled, and made ready for the "bread and butter."

Nos. 236, 237, 238, and 239.

### THE BOTRYLLUS, ETC.



No. 236.—THE BOTRYLLUS.

THE Botryllus is a group of ten or twelve tiny creatures which cluster together and form a star, always fixing themselves to some other substance, and so they swim about in the



No. 237.—MUSSEL PARASITE.



No. 238.—ROCK VENUS.



No. 239.—ROCK BORER.

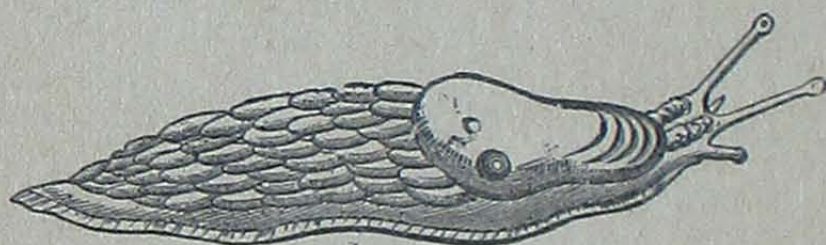


sea. No. 237 is the inhabitant of a kind of mussel found on the Australian coast. Quite different creatures now appear—Nos. 238 and 239. Borers make homes for themselves by boring little cavities in rocks.

Nos. 240, 241, 242, 243, and 244.

### THE SLUG, SEA SNAIL, ETC.

WHEN the dew begins to fall at night the Slug usually appears, and is not welcomed by us. No. 241 shows the inside of a Sea Snail shell, very common in warm climates; *a* and *c* the rim; *d e* and *b* the inner parts;



No. 240.—THE SLUG.

and *f* the crown of the shell. No. 242 is a very humble creature, little better than a sea-weed; *a* and *b* point out two openings. No. 243, the hard-shelled little Sea Slater, with its



No. 243.—SEA SLATER. No. 241.—SEA SNAIL.

fourteen legs, infests soft fish, and sometimes hides under stones. No. 244 is a kind of sea-worm that bores holes through the hardest wood, and makes it like sponge. It does great mischief to ships as they sail along.



No. 244.—THE TEREDO OR BORER.



No. 242.—THE CYNTHIA.



## DIVISION I.—ZOOLOGY.

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### PART VII.—INSECTS.

UNDER the general title of INSECTS are comprehended innumerable creatures of various classes, all of them small, and vast numbers of them most minute, of which it has been well said that they "appear to have been Nature's favourite productions, in which, to manifest her power and skill, she has combined and concentrated almost all that is either beautiful and graceful, interesting and alluring, or curious and singular, in every other class and order of her children." Of these, "her valued miniatures, to which Nature has given the most delicate touch and the highest finish of her pencil," some varieties are represented and described in the pages that next follow.

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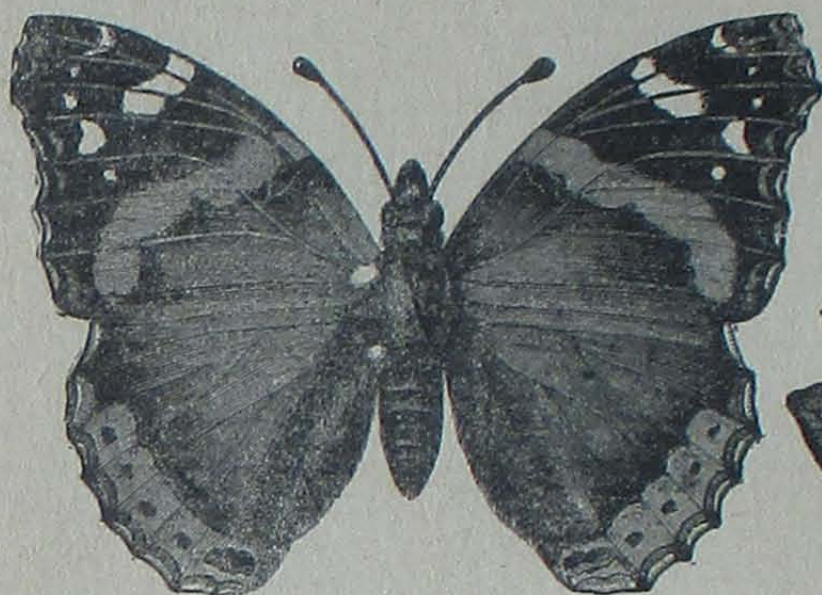
Nos. 245, 246, and 247.

#### THE RED ADMIRAL.

THIS is one of the most beautiful of our English butterflies; on "airy, fairy" wing it goes, its deep black,

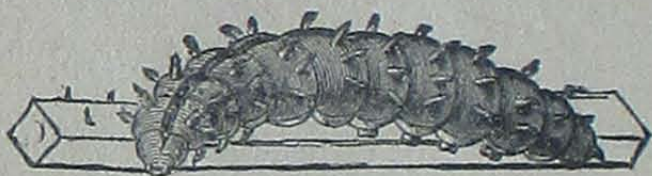
pure white, and bright scarlet livery, tempting us to chase it for a nearer look, and perhaps to sting our fingers, if it should settle for a moment on its favourite nettles—its birthplace and first food; for amongst nettles our





No. 245.—RED ADMIRAL BUTTERFLY.

beautiful butterfly began its life in a tiny egg, then it became a greenish caterpillar (No. 246); thirdly, a dull



No. 246.—THE CATERPILLAR, ADMIRAL BUTTERFLY.

dead-looking chrysalis (No. 247); and at last burst forth a gorgeous-winged beauty.



No. 247.—THE CHRYSALIS, ADMIRAL BUTTERFLY.

Nos. 248, 249, and 250.

## THE SWALLOW-TAIL.

THE Swallow-tail Butterfly is the largest we have in England, sometimes measuring three inches and a



No. 248.—THE SWALLOW-TAIL BUTTERFLY.

half from one wing-tip to the other. We first see it in June, flying quickly in almost a straight line. Its wings are black, beautifully variegated with yellow marks, each wing ending in a



No. 249.—THE CATERPILLAR, SWALLOW-TAIL BUTTERFLY.

sharp tip, something like the tail feathers of the Swallow. No. 249 shows the caterpillar of the Swallow-tail, with its horned head; and No. 250 the chrysalis.





No. 250.—THE CHRYSALIS, SWALLOW-TAIL BUTTERFLY.

Nos. 251 and 252.

### THE CLOTHES MOTH.

THE little moths of this kind, small as they are, do a large amount of mischief. The moth lays her eggs on furs, woollen stuffs, and many



No. 251.—THE *TINEA CERELLA*, CLOTHES MOTH.

other materials, and even on the skins and plumage of the stuffed creatures in museums—rather a cannibal taste. This moth is small, and



No. 252.—THE CLOTHES MOTH.

of a modest brownish colour. No. 252 shows how it looks when sitting with its wings folded,

No. 253.

### THE GAMMA MOTH.

THIS pretty insect is also called the Silver Y-Moth, from having a silvery mark something like the English letter Y, as well as the Greek letter  $\gamma$  (*gamma*), on its rich dark wings. It is a striking contrast to the little Clothes Moth, with its rich metallic



No. 253.—THE GAMMA MOTH.

marks, bands, and dots, shining on purplish or dusky brown wings. These moths flit gaily about from flower to flower, preferring the warm rays of the sun to the shades of night. The caterpillar is green with a brown head, and bends its back when it walks.

No. 254.

### THE TORTRIX MOTH.

HERE we have a good example of the cleverness, or rather wonderful instinct of insects. The Tortrix or "Twister" Moth twists or rolls up



leaves in which the eggs and larvæ are snugly housed. These moths are very numerous, and there are many varieties of them.

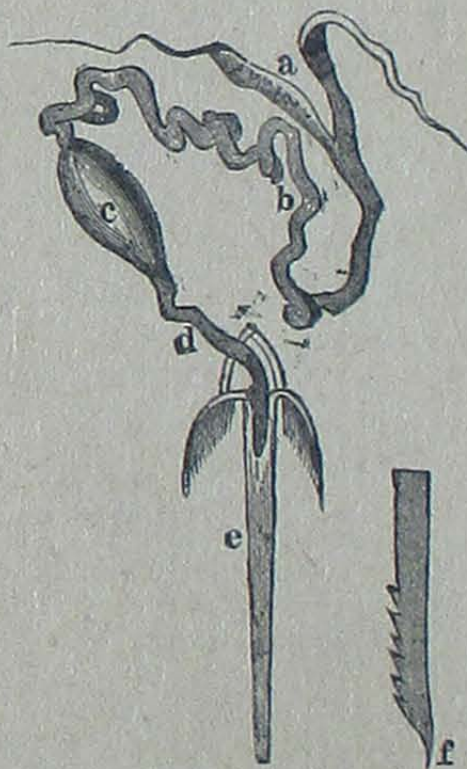


No. 254.—TORTRIX UVANA.

No. 255.

### THE STING OF THE WILD BEE.

BEEES are all armed with a formidable sting, here much magnified, which explains how far wise we are not to



No. 255.—STING OF WILD BEE.

interfere with or irritate the "busy bee." The letters *a* and *b* show the channel along which the stinging poison passes; *c* a little bladder where the poison collects; *d* another channel leading to *e*, the actual sting in its sheath; *f* is the point of the sting unsheathed.

No. 256.

### THE CABBAGE-MOTH CATERPILLAR.

THIS caterpillar is one of the gardener's worst enemies. It is green, like its favourite cabbage, with dull yellow stripes, and one dark stripe all along its back. The moth, which has dark wings, is common in our gardens. There is also a well-known white butterfly, named after the cabbage upon which its caterpillar feeds.

Nos. 257, 258, 259, 260, and 261.

### THE SILKWORM MOTH.

WE often are able to observe the changes of the Silkworm, for with care and proper food we may rear the tiny caterpillar until, after changing its skin four or five times, and turning a soft grey colour (No. 257), it shows a wish to spin, by making silky threads from one thing to





No. 256.—THE CABBAGE-MOTH CATERPILLAR.

another; then, if put in a dark place, it will soon surround itself with these threads till it is quite hidden (No. 260). If this pretty covering is



No. 257.—THE CATERPILLAR.

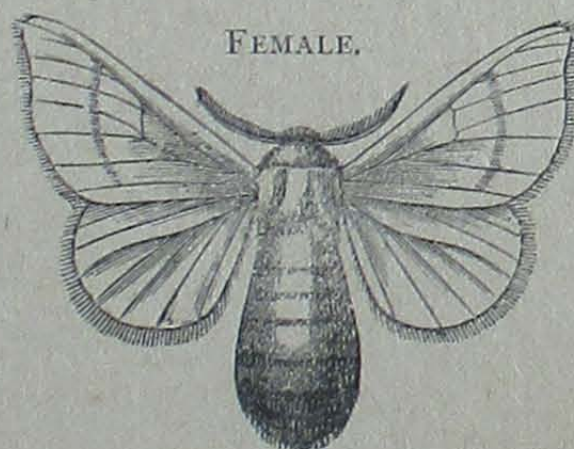
wound off for the sake of the soft yellow silk, we shall find the chrysalis (No. 261) inside; but if we wish to see the moth (Nos. 258 and



MALE.

No. 258.—SILKWORM MOTH.

259) we must leave the chrysalis alone in its cocoon until the wonder-



FEMALE.

No. 259.—SILKWORM MOTH.



ful change takes place, and the moth forces its way out. It only lives to lay a great many eggs.



No. 260.—COCOON.



No. 261.—CHRYsalis.

Nos. 262, 263, 264, and 265.

## THE SAW-FLY AND GRUB.

THESE little flies saw a slit in the stems of twigs or branches of trees, and there place their eggs. One



No. 262.—THE SAW-FLY.



No. 263.—THE SMALL SAW-FLY.

kind of Saw-fly chooses a rose-tree, others willow-trees and osiers, and again the caterpillar of another kind does great mischief to gooseberry and



No. 264.—GRUB AND GALL OF SAW-FLY.

currant bushes by entirely stripping off all the leaves, in which occupation No. 265 shows the small creature most busily engaged.



No. 265.—THE CATERPILLAR OF SAW-FLY.

Nos. 266, 267, and 268.

## THE GAD-FLY AND LARVÆ.

IN spite of the great difference in size between the Ox and the Gad Fly,



No. 266.—THE GAD-FLY.





No. 267.—LARVÆ OF GAD-FLY.

the larger creatures suffer very much from the attacks of its little enemy. The Gad-fly (No. 266) makes painful wounds in the skin of oxen, and



No. 268.—THE HORSE-FLY.

there lays eggs, which hatch into a grub (No. 267), that feeds on the flesh of the unlucky animal. No. 268 is a fly of the same kind, that attacks horses.

No. 269.

### THE YELLOW ANT.

ALL Ants, except the workers, have four delicate transparent wings. In our picture, *a* shows a wingless work-



No. 269.—THE YELLOW ANT.

*a* Female Worker.

*b* Male.

ing Ant, and *b* a winged male Ant. This particular Yellow Ant uses the dust of decayed wood, earth, and

spiders' webs, well mixed together, to build its house, with all its chambers, stages, and galleries.

No. 270.

### THE ANT LION.

THIS insect makes pit-falls in sand, and there lies in wait for unwary ants, upon which it feeds.



No. 270.—THE ANT LION.

No. 271, 272, and 273.

### THE COMMON WASP.

THIS fierce insect has a most irritable temper, as hot as the summer sunshine that wakes it into life. It will attack



No. 271.—THE COMMON WASP.



and devour other small creatures, and is very bold in self-defence.

No. 272, the Wasp Fly, is a very lively, swiftly-flying little insect, quite content with a gay life, without the



No. 272.—THE WASP  
FLY.



No. 273.—THE  
PEAR WASP.

wish or power to do harm. No. 273, the Pear Wasp, has a decided taste for its namesake, the pear, and is armed with a sting.

Nos. 274 and 275.

### CRICKETS.

THE Mole Cricket digs deep holes in sandy banks, and makes chambers in which to place its eggs. The House Cricket, our "cricket on the hearth,"



No. 274.—THE MOLE CRICKET.

is a comfortable little creature, often found in swarms as near as possible to the oven or kitchen fire, where it

makes no secret of its contented mind, in fact, publishes it to all hearers by its cheery chirping.



No. 275.—THE HOUSE CRICKET.

Nos. 276, 277, and 278.

### BEEES.

THE Working Bee is the really *busy* bee, which

"Gathers honey all the day  
From every opening flower,"

and then stores away its sweet burden in the cells made from the wax which the insect kneads into the proper shape. No. 277 is the Queen Bee, the royal mother of the whole hive. At the swarming time the old Queen



No. 276.—THE WORKING BEE.

leads forth a swarm of faithful followers to find another home, and the young Queens follow her example





No. 277.—THE QUEEN BEE.

in turn, till but one is left to re-establish a colony in the original hive. No. 278 is the Drone, or lazy male bee.



No. 278.—THE DRONE.

No. 279 and 280.

### THE BROWN WOOD ANT.

No. 279.—THE BROWN WOOD ANT.  
(FEMALE WORKER.)

WE can at once see that the two pictures of this Ant are larger than life. No. 279 is the industrious Brown



No. 280.—THE BROWN WOOD ANT (FEMALE).

Ant we so constantly see, without wings, as they would hinder its work. The winged female Ant is shown in No. 280.

No. 281.

### THE EARWIG.

EARWIGS like warm weather, and are very common in the summer time. They are not friendly to one another, but decidedly of a cannibal turn.



No. 281.—THE EARWIG.

No. 282.

### COCKCHAFER.

THE Cockchafer itself is harmless ; it makes a buzzing noise as it flies, and



prefers the warm summer evenings. The pupa and larvæ of the Cockchafer are very mischievous; they eat away the roots of plants and grass, completely cutting them off with their



No. 282.—THE COCKCHAFER.

sharp saw-like jaws. If blackbirds, thrushes, and other birds had not a great fondness for these grubs, the embryo Cockchafers would be wholesale destroyers.

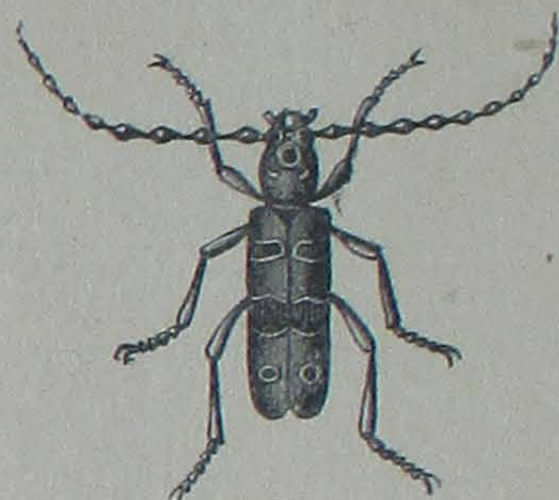
Nos. 283, 284, and 285.

### ALPINE ROSE AND OTHER BEETLES.

No. 283, a beetle found in Alpine regions, is very prettily marked on the wing-cases. The wing-cases of the



No. 284.—THE GROUND BEETLE.



No. 283.—THE ALPINE ROSE BEETLE.

Ground Beetle (No. 284) are covered with rows of oblong raised spots; and it is one of the largest of British beetles, about one inch long. No. 285, the Meloë Beetle, likes living on trees.



No. 285.—THE MELOË BEETLE.

Nos. 286 and 287.

### THE GLOW-WORM.

SMALL pale green lights shining on grassy banks in the evening of a warm summer day betray the presence of the Glow-worm. The female



insect (No. 287) gives out a much stronger light than the male (No. 286).



No. 286.—THE GLOW-WORM (MALE).



No. 287.—THE GLOW-WORM (FEMALE).

No. 288.

### CARABUS BEETLE.

THERE are upwards of 120 kinds of the Carabus Beetle; they all live on animal food, such as insects, worms, &c., which they seize and hold tightly with their sharp mandibles—*a* points



No. 288.—THE CARABUS BEETLE.

out the feelers; *b* the head; *c* the upper part of the body joining the head; *d e f* and *g* the different parts of the leg.

No. 289.

### THE TREE HOPPER.

WE must not confuse the Tree Hoppers or Tuneful Cicadae with our English Grass-hopper; they are different creatures. Tree Hoppers



No. 289.—THE TREE HOPPER.

are found in the south of Europe, and are remarkable for the curious way in which the females cut long cells in the branches destined to receive their eggs.

Nos. 290, 291, 292, and 293.

### A GROUP OF BEETLES.

No. 290, the *Dytiscus Marginalis*, besides the large wings common to all beetles, has curious winglets, made of small stiff scales fringed at the edge. No. 291, the Burying Beetle, takes its name from its





No. 290.—THE DYTISCUS MARGINALIS.

custom of burying any small animal left dead on the ground. No. 292, the Calandria Granaria, is a kind of



No. 291.—THE BURYING BEETLE.

Weevil, or long-snouted Beetle. It pierces the skin of grains of wheat, and carefully puts one egg in each



No. 292.—THE CALANDRIA GRANARIA.

grain, so that when the eggs hatch each grub should have exactly the proper quantity of food. No. 293, the Dor Beetle, is very common.



No. 293.—THE DOR BEETLE.

Nos. 294 and 295.

### BEETLES, &c.

No. 294 is the Ptilinus Pectinicornis. The Germans call this beetle a comb-borer; its feelers are rather like a



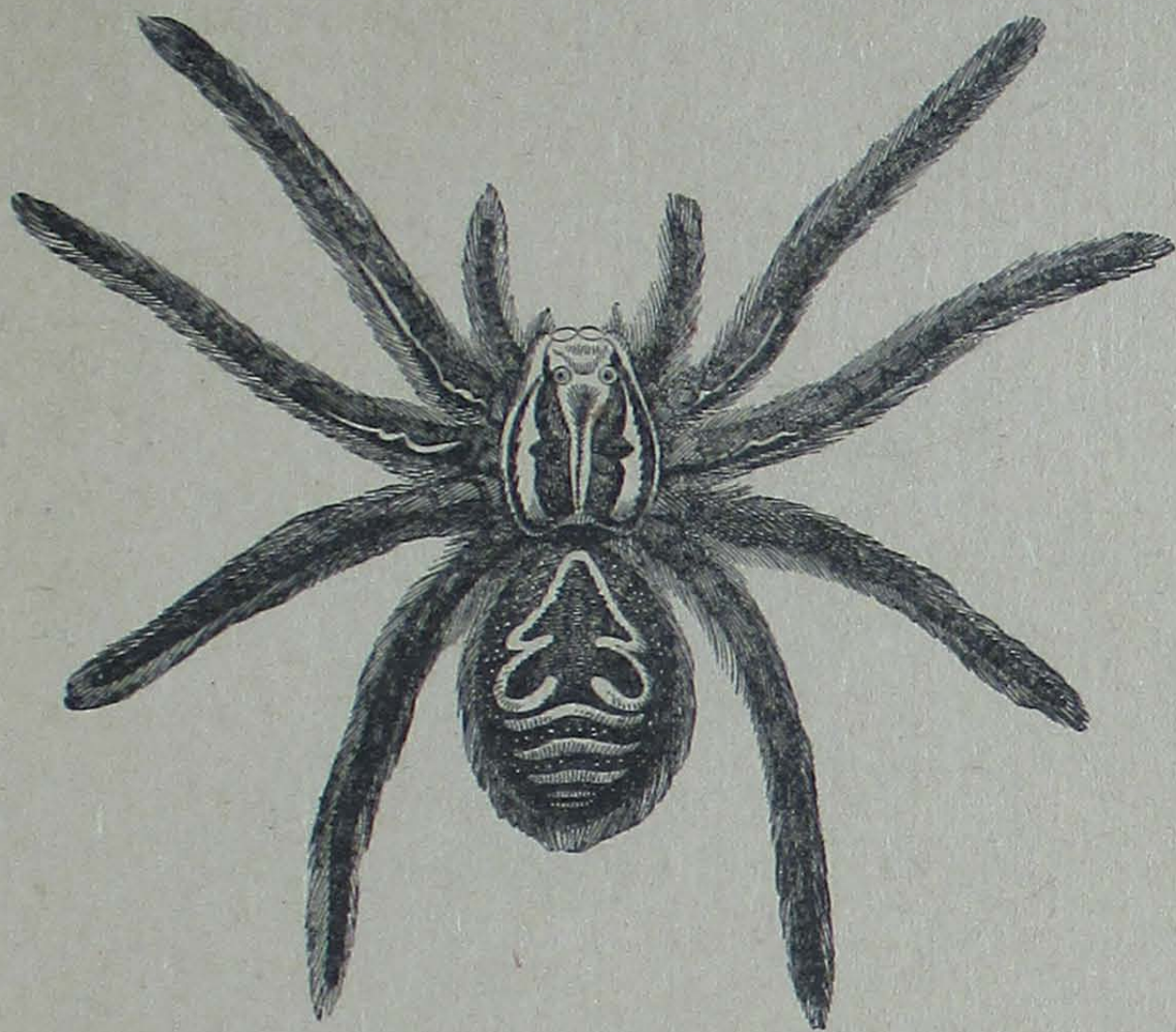
No. 294.—THE PTILINUS PECTINICORNIS.

comb. No. 295, the Spanish Fly or Cantharides, when dried and pounded into a paste, is used as a blister.



No. 295.—THE SPANISH FLY.





No. 296.—THE TARANTULA.

No. 296.

THE LYCOSA  
TARANTULA.

THIS giant spider is rather an alarming contrast to the busy little web-spinners to which we are so accustomed; it is different in habits as well as in size, and, fortunately for us, it keeps to the south of Europe. The Tarantula lives in holes four inches deep in the ground, to which nest it carries its prey as a lion would to its lair. Many absurd stories make the

Tarantula appear to be a most deadly, horrible creature; in reality, it can bite rather sharply, causing swelling and irritation, but no real danger. This has been proved by people allowing themselves to be bitten, to see what the consequences would be—not a very pleasant experiment, and one which we would rather was tried *for* us than *by* us; still, this fact proves that the fables and stories told of the dreaded Tarantula spider were invented by persons not particular in keeping to the truth.



Nos. 297 and 298.

## THE NAIS AND EARTH-WORM.

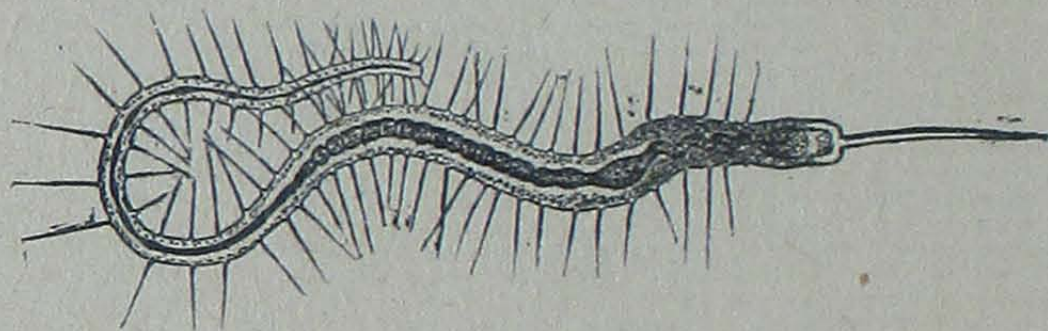
THE two kinds of worms shown in this page are very different from one another. The Nais (No. 297) is an arrow-like water-worm, with a flexible, soft body, covered with a kind of spiky bristles, and it has a snout—two peculiarities quite striking enough to make the Nais distinguished from

way of burrowing and casting the earth up on it, where we may see it in little heaps. This creature is quite defenceless and harmless, except from its burrowing tendencies.

Nos. 299 and 300.

## THE SCORPION AND THE TICK.

SOME of the Scorpions in hot countries can sting very venomously. They are



No. 297.—THE NAIS.

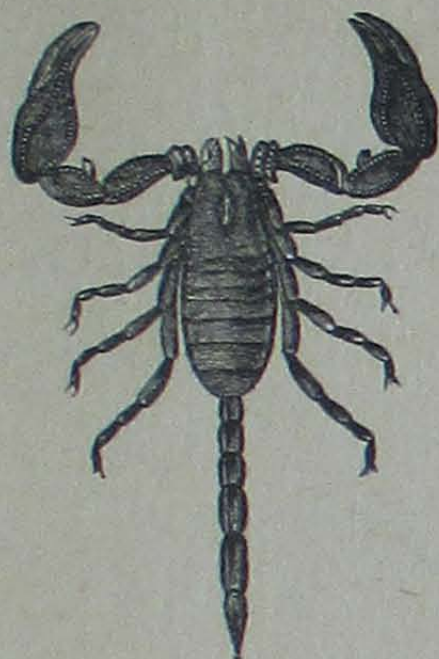
other worms. All worms have their bodies divided into many ring-like divisions, fitting into each other. This enables the worm to twist itself about, or *wriggle*, both quickly and easily. Its skin is always moist, and its blood is red. The Earth-worm (No. 298) does some mischief to grass from its

very pugnacious and quarrelsome, and if several are put together, they will fight until few are left, when the victors immediately proceed to eat up their fallen foes. The Scorpion (No. 299) has claws like a miniature Lobster, with which it seizes its prey, and it stings with its six-jointed flexible tail.



No. 298.—THE EARTH-WORM.





No. 299.—THE SCORPION.

The Hedgehog Tick (No. 300), is a small hungry insect. It will bite men as well as animals, and sticks so fast that its body may be cut off and the head will still remain tightly fixed. In America these Ticks are very troublesome.



No. 300.—THE TICK.

No. 301.

### THE HORSE-LEECH.

THIS Leech is rather larger than the useful medicinal Leech, which is found in great numbers both in France and England. Little children catch them

by running into the water and letting the Leeches fasten themselves tightly to their bare legs. The Horse-leech has a disc-like mouth, in the middle of which are three tiny teeth. This curiously-shaped mouth enables Leeches to hold firmly on after biting.

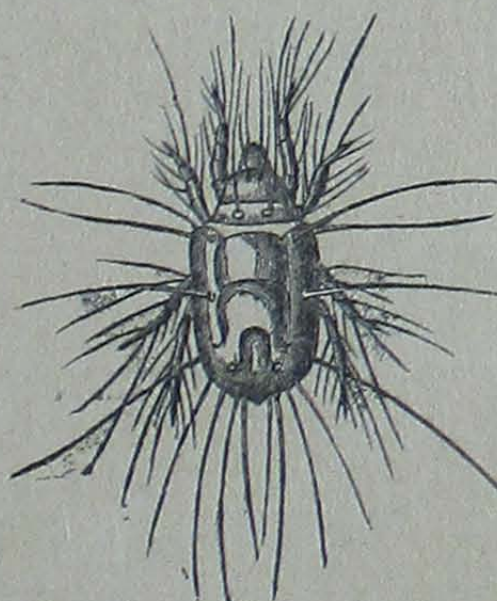


No. 301.—THE HORSE-LEECH.

Nos. 302 and 303.

### CHEESE AND MUSSEL MITES.

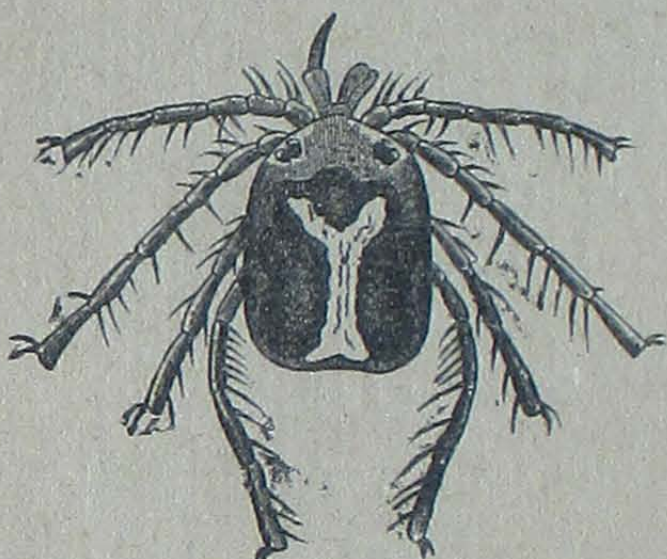
WE use the word *mite* to express something very small indeed. In our picture the Cheese Mite is much



No. 302.—THE CHEESE MITE.



magnified, because, if it had been drawn its natural size, we should have had such a *mite* of a creature to look at that we should most likely have passed it by altogether. Many other pictures in this book are magnified for much the same reason. This Mite is found in regular colonies in old



No. 303.—THE MUSSEL MITE.

cheese, looking like brownish dust, which look leads to the wholesale destruction of Mites by many hungry eaters of cheese. The Mussel Mite (No. 303) has rather a spidery look, with many legs, and an odd-shaped body. It is found in mussels and other shell-fish.

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No. 304.

### THE SHEPHERD SPIDER.

THE Shepherd Spider or Harvest-man has a strong family likeness to

the larger-winged insect commonly called "Daddy Long-legs." This spider has very long slender legs, so that it can run as swiftly as possible over the long grass. It does not



No. 304.—THE SHEPHERD SPIDER.

seem at all to mind losing one or more of these long thin legs—a fortunate circumstance, as the limbs break off at the slightest touch.

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No. 305.

### THE LUG-WORM.

IF this creature had not its curious *fringe*, it would not be unlike the large Earth-worm, except that it is of a larger growth, as its body is divided into the same kind of segments. It is of a reddish colour, with the fleshy tufted fringes so well shown in our picture. The Lug-worm is quite harmless. It is found in the sand of low flat shores, and is used as bait by fishermen. It is about one foot in length, and if touched it stains the hand yellow.





No. 305.—*ARENICOLA PISCATORUM*.  
(LUG-WORM).

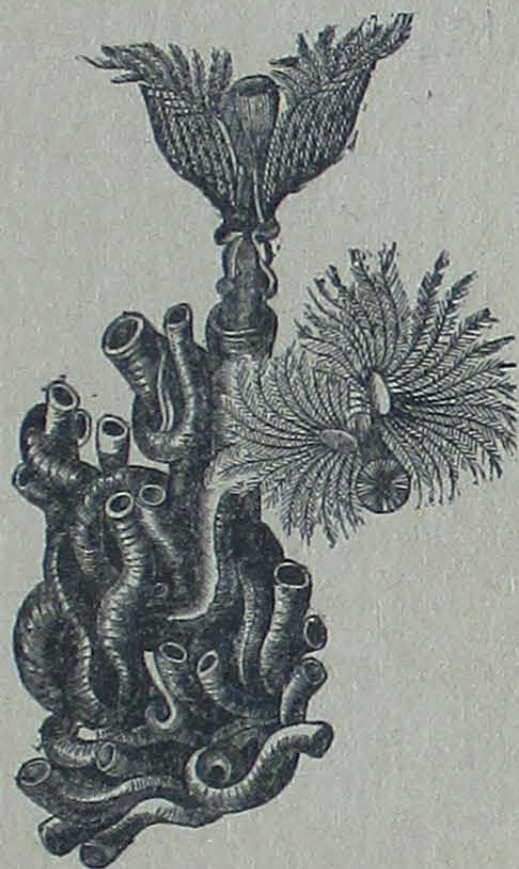
No. 306.

### THE SERPULA.

THIS is a kind of worm that makes a tube in which to live, and fixes it

K

in one place under the water ; usually old shells and pebbles are intertwined with these tubes. On each side of the Serpula's neck are fan-like tufts of a rich blue colour, through which



No. 306.—THE SERPULA VERMICULARIS.

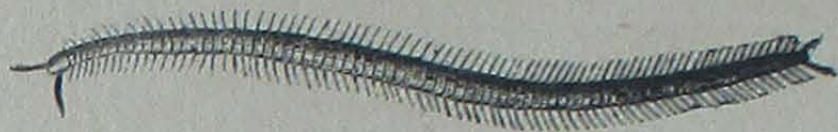
the creature breathes. It puts the upper part of its body out of the tube, and spreads out these pretty tufts or plumes.

No. 307.

### THE COMMON MILLIPEDE.

THE Centipede or Hundred-legs is the name most familiar to us, and

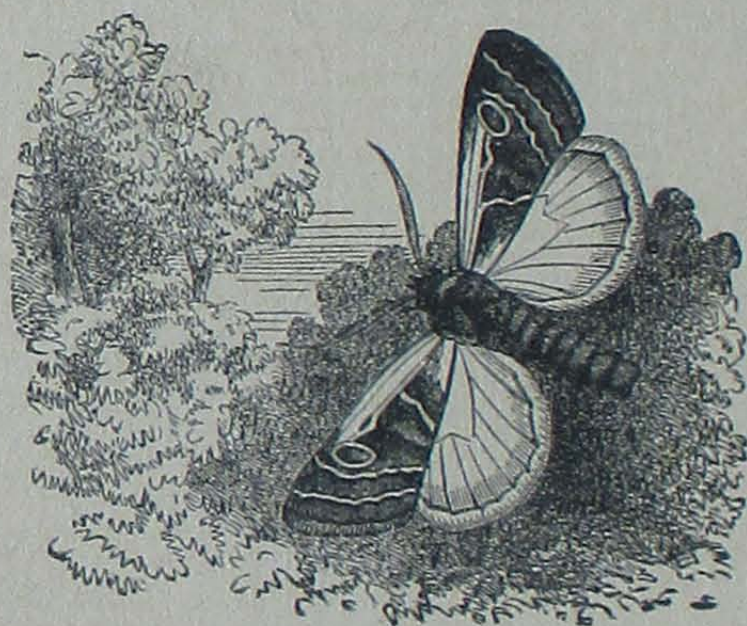




No. 307.—THE COMMON MILLIPEDE.

by which we best know this many-legged creature. There are no very large Centipedes in Europe, but in Brazil there is one seven inches long. The Common Millipede lives in the

light mould of plantations and gardens under old walls or stones, and, if disturbed, makes active use of its numerous legs to run away very fast indeed. It feeds on decayed plants.





## DIVISION II.—BOTANY.

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IN this division of NATURAL HISTORY is contained whatsoever relates to every tree, shrub, flower, and plant that grows upon the wide surface of the earth; and BOTANY also must be considered to include the history of all water plants, as well those that live and grow in the salt waters of the seas as those that have their home in fresh water, wheresoever the fresh waters may show their welcome presence.

It is well for us always to connect together Zoology and Botany. We may remember that the wisest of men took an equal delight in every branch of Natural History which was open to his research; for it is written of Solomon, that "He spake of trees, from the cedar-tree that is in Lebanon even unto the hyssop that springeth out of the wall: he spake also of beasts, and of fowl, and of creeping things, and of fishes" (1 Kings iv. 33).

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Nos. 308, 309, and 310.

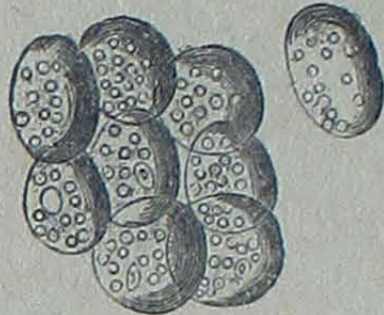
### CELLS.

AGAIN the magnifying glass unveils to us a few more of the thousands of marvellous works that are hidden in

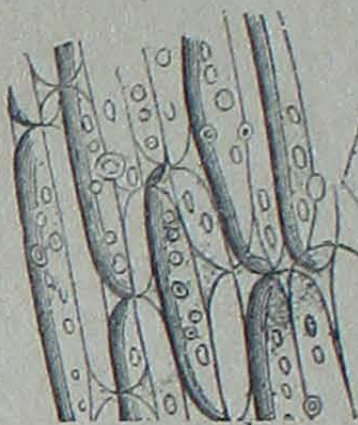
the trees, plants, and flowers. Every leaf is a tissue of innumerable fibres; every little seed and grain is as carefully and perfectly formed as the finest fruit or the grandest tree.

The pictures show several objects

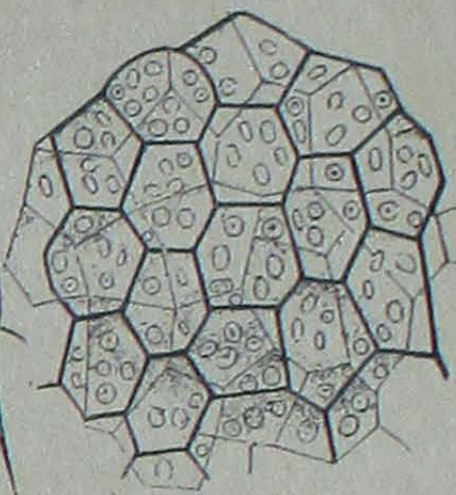




No. 308.—CELLS.



No. 309.—CELLS.



No. 310.—CELLS.

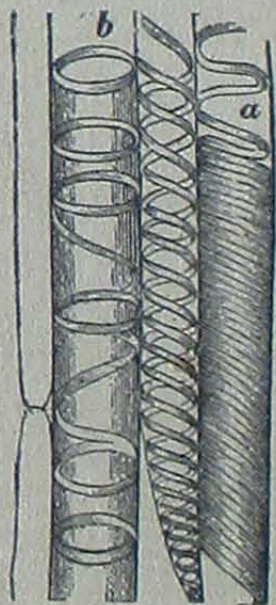
highly magnified. No. 308 is a group of little ball-like cells; 309 expanded cells, and 310 flat cells. It can be seen here that the little cells so common to plants not only differ in shape but also in arrangement.

Nos. 311, 312, and 313.

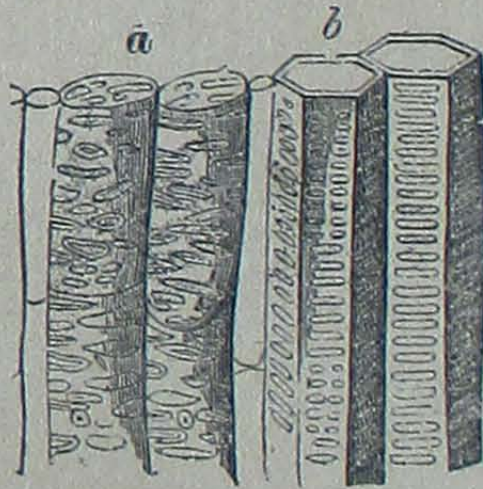
### SPIRAL VESSELS, ETC.

SPIRAL vessels are common in young plants and shoots of shrubs, while in

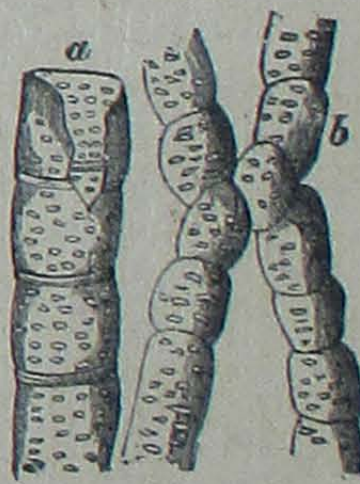
the hard stems of trees they are chiefly found round the pith. In No. 311 *a* and *b* point out the spiral or ring-like shapes of these fibres. If we break off the young shoots of the strawberry, geranium, or rose, these fibres may be seen, looking like a fine cobweb. The fibres from the banana and plantain are so strong that they may be pulled out in quantities and used as tinder. No. 312 *a* and *b* show different pores found in plants; and No. 313 *a* and *b* sets of air-vessels



No. 311.—CELLS.



No. 312.—CELLS.



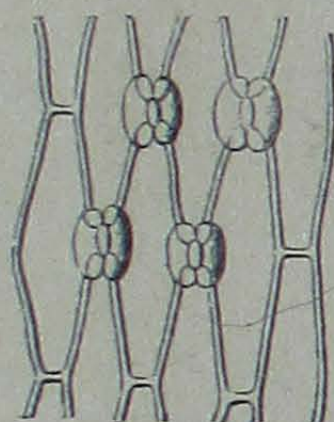
No. 313.—FIBRES.



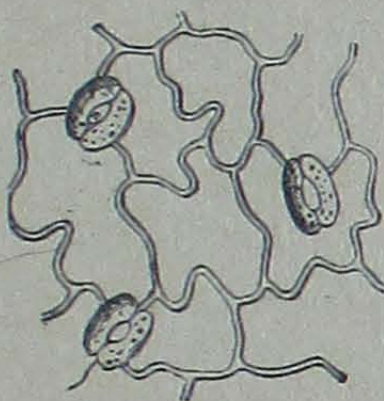
joined together and sometimes overlapping each other.

Nos. 314, 315, and 316.

### SECTION AND FIBRES OF A LEAF.

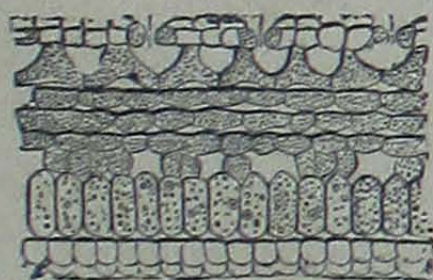


No. 314.—SECTION  
OF LEAF.



No. 315.—SECTION  
OF LEAF.

THIS is really a leaf with the outer part peeled off, so as to show all the different vessels underneath, through which the life-giving sap flows, the



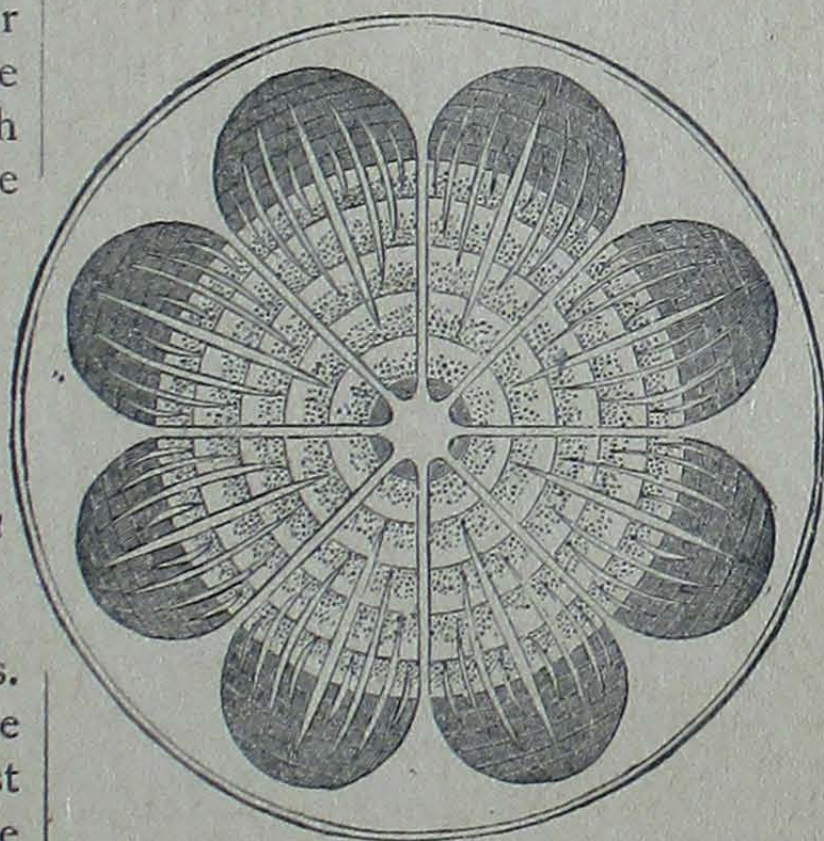
No. 316.—SECTION OF LEAF.

same as the blood flows in our veins. Nos. 314 and 315, the outer fibres, are very beautiful, finer than the finest lace. No. 316 is the edge of the leaf.

No. 317.

### SECTION OF THE SHOOT OF A TREE.

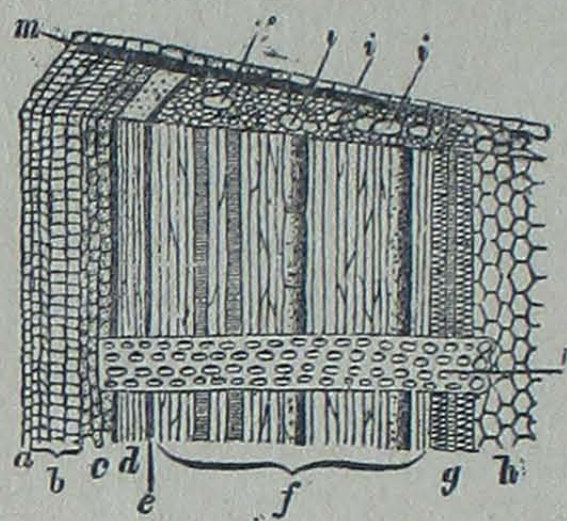
WE must suppose this shoot, from a tree of five years' growth, to have been cut through, so that we see inside it. As the tree grows and the shoots enlarge into twigs and branches, the cells strengthen and take different and more solid forms—the outside becomes bark, and the very centre pith. Between the bark and pith the growth or changes take place. No. 318 shows another section of the stem of a tree: *a* the outer fibres or bark; *b* outer cells; *c d* and *e* cells and parts of the bark; and *f* parts towards the centre



No. 317.—SECTION OF SHOOT OF TREE.



of the wood; *g* vessels where the sap separates or collects; *h* the cells containing the sap; and *i i i* other vessels.

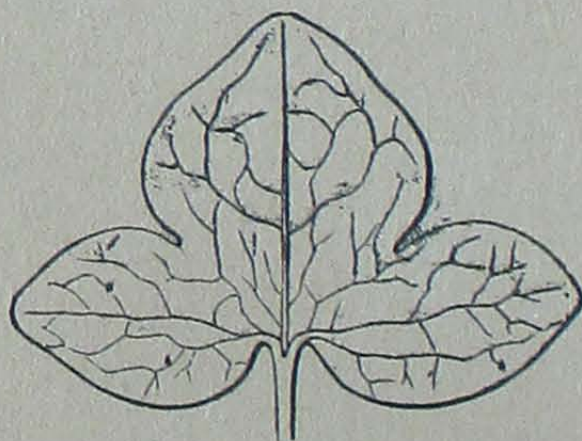


No. 318.—SECTION OF STEM OF TREE.

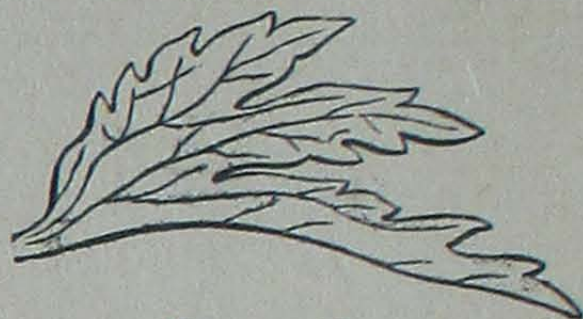
No. 319, 320, 321, 322, 323, &c.

## DIFFERENT LEAVES.

WE have here a few leaves to look at before we come to the flowers. No. 319 is a kind of trefoil, of which we have plenty of examples, such as clover, the wood wild strawberry, wood sorrel, and the well-known



No. 319.—LEAF.



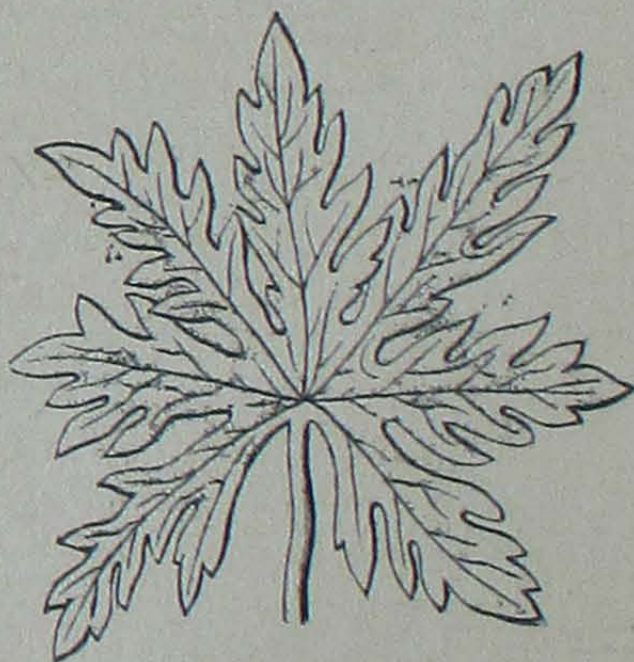
No. 320.—LEAF.

shamrock of Ireland. The word "trefoil" is taken from *trois feuilles*, three leaves. No. 320 is a half leaf, with the edge so much cut



No. 321.—LEAF.

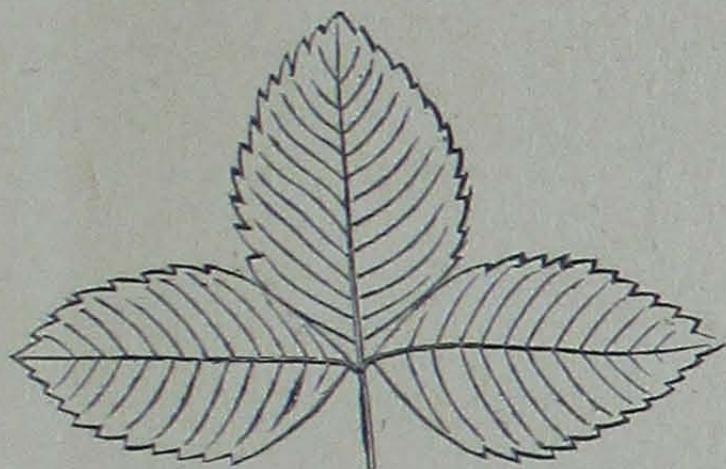
out, that it looks almost like many separate leaves very close together; No. 321 is a leaf with a kind of saw-like edge, we may find leaves of



No. 322.—LEAF.

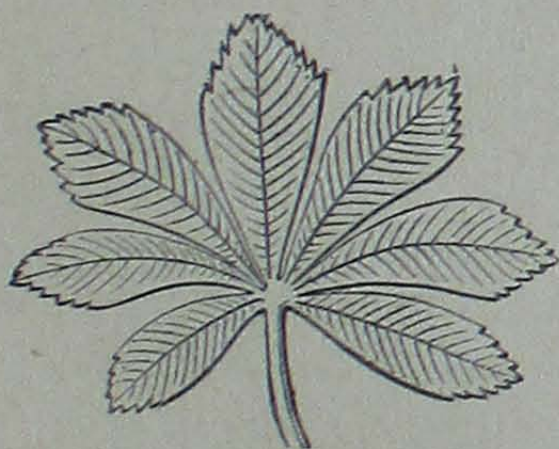


this sort growing wild ; No. 322 is a leaf very deeply divided into seven different parts, all joining at the centre ; No. 323 is a leaf in three distinct leaflets, like the strawberry.



No. 323.—LEAF.

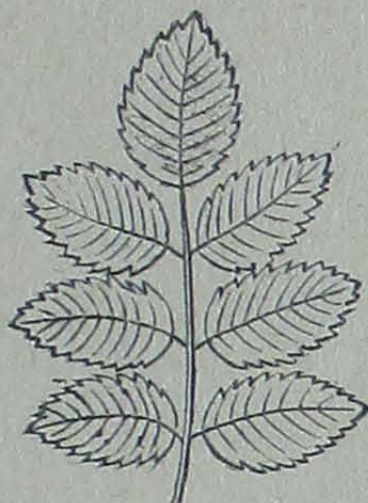
No. 324 is another divided leaf, the common horse-chestnut. In spring these fine large leaves are among the earliest to make it evident to all eyes that green trees will soon succeed the



No. 324.—LEAF.

bare brown-branched forms that have met our gaze all through the long winter months. No. 325 is like the rose-leaf, several small leaves set on

either side of a central stalk, with one leaf at the end. This leaf, as well as very many others, have the edge uneven or cut out very finely, instead of a smooth outline. No. 326, the



No. 325.—LEAF.

last of our leaves, is of a very pretty kind, so much divided as to be almost feathery, and ending gracefully in a little tendril. Again, we have not



No. 326.—LEAF.



far to go for living examples of such leaves if we are fortunate enough to have a country home. In many hedges we may find wild vetches with purple flowers, and leaves of this pretty sort, just like our picture.

No. 327.

## FLOWERS.

FIRST the leaf and then the flower. Flowers are divided into several parts: inside are the *stamens* and *pistils* (*a* and *b*, No. 327), which belong to the seed; the two outer parts are called the *corolla* (*c*), and the *calyx* (*d*), kind of floral envelopes or coverings. They



No. 327.—FLOWER.

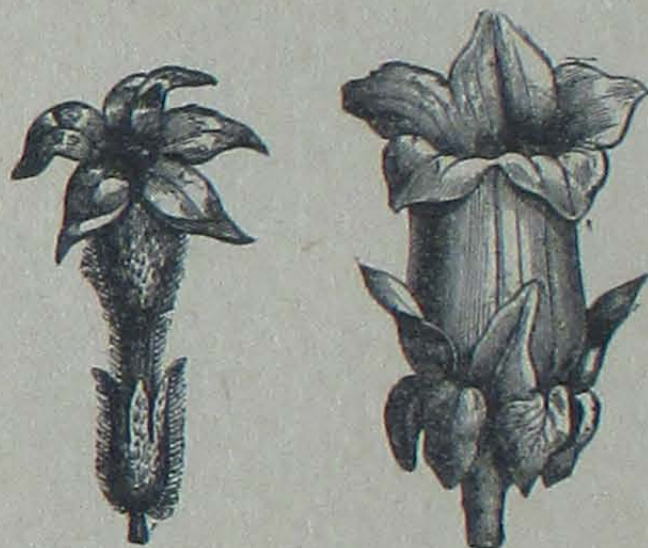
are of very many shapes and sizes, the actual calyx being usually green. The corolla is formed of *petals*, the most attractive part of the flower, from the varied and brilliant colours. Look at the petals of the wild scarlet poppy, for instance, what colour could be more gorgeous? and then

look closely at the delicate petals of the wood anemone and the primrose, whose soft pure colouring cannot be rivalled.

Nos. 328, 329, 330, 331, &c.

## FORMS OF FLOWERS.

IN these pictures we have a collection of flowers—only the actual flowers themselves, without leaves or stalks.



No. 328.—FLOWER. No. 329.—FLOWER.

We can see how very varied are the shapes of even this tiny collection; for instance, No. 328 has a long-shaped blossom, with five petals; No. 329 is bell-shaped, like the beautiful blue gentianella; No. 330 is lip-shaped—*a* refers to the calyx, *b* the tube in which the honey is found, and *c* the lips; No. 331 is another flower with four petals arranged like a cross; No. 332 is a blossom with five petals, rather like a single blossom



of sweet-william; No. 333 is rather butterfly-shaped—*a* points out the sort of wing, *b* other wing-like petals, and *c* a fourth petal between *b*. These are but a very few examples. One hour's walk in a garden, or in the country where wild flowers abound,



No. 330.—FLOWER.



No. 331.—FLOWER.

would show us a far more varied collection; but to attempt to give pictures of many more than we have here would be only tantalising, and it is far more pleasant to gather the real living blossoms, whose beauties are but shadowed in mere pictures.



No. 332.—FLOWER.



No. 333.—FLOWER.

Nos. 334, 335, 336, 337, 338, &c.

## PARTS OF FLOWERS.

THERE are some petals of very curious forms, such as No. 334, which is like the horn-shaped petals of the



No. 334.—PETAL.

monkshood, a tall blue flower. No. 335 shows other odd-looking petals, one like a crumpled leaf, and the other like a spur or single claw;



No. 335.—PETAL.

No. 336 is a stamen, which is part of the centre of flowers—*a* is the little hollow case or sac, called the *anther*, which is filled with a fluid and a number of tiny particles called *pollen*; *b* is the *filament*, or stalk-like

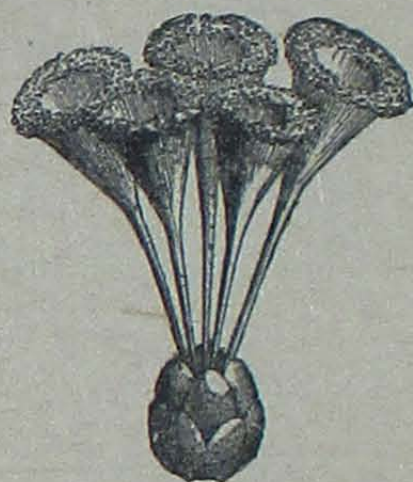
No. 336.  
STAMEN.No. 338.  
STAMENS.No. 337.  
STAMEN.



support of the anther. No. 337 is another stamen of a different shape—*a* the anther, *b* the filament. No. 338 shows how the stamens are clustered together, and No. 339 shows another example of much the same thing—a



No. 339.—STAMENS.



No. 340.—STAMENS.

group of stamens. Nos. 340, 341, and 342 are very curious-looking sets of stamens, not at all common. No. 343 is the pistil, found quite in the centre of flowers, in which the seeds are enclosed, destined eventually to



Nos. 341, 342.—STAMENS. No. 343.—PISTIL.

grow into fresh lovely flowers, when their parent plant fades or dies: *a* is the end or point, *b* the shaft or stalk, and *c* the seed vessel.

Nos. 344, 345, and 346.

### AN EAR OF BARLEY, ETC.

HERE is a well-known group of seeds. We do not want to hear much about an ear of Barley, for again we can study its form and arrangement much better by walking out in the fields when the autumn is coming, and gathering

something better than a picture. Wheat ears are arranged in the same sort of way, but without what we sometimes call the "beard"—that is, the hairy spikes at the end of each grain

No. 344.  
BARLEY.No. 345.  
CATKIN.No. 346.—LORD  
AND LADY.



of barley. No. 345 is a Catkin, the flower of the hazel-nut, often called "lambs' tails" by country children. No. 346 is another favourite with most children, and by them named "lords and ladies." It is a curious plant; the centre which our picture shows is sometimes of a rich, velvet-like brown, and at other times quite a pale colour. The dark ones are the *lords*, and the light most correctly called the *fair ladies*. A large kind of green leaf protects both lords and ladies, which opens as the plant grows.

Nos. 347, 348, 349, and 350.

## DIFFERENT FLOWERS.

No. 348 is the sweet white Lily of the Valley, its silver bells all hung in regular order on its pale green stem. The quiet, delicate beauty of this small flower, half hidden by its large

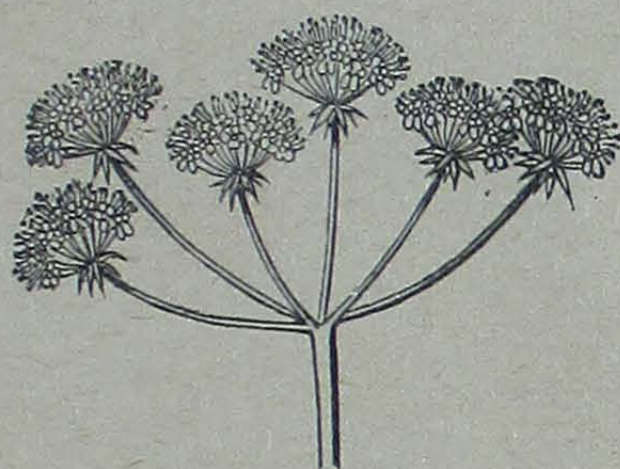


No. 347.—BELL FLOWER.



No. 348.—LILY  
OF VALLEY.

green leaves, makes it a favourite with all. No. 347 is a flower of the kind called *umbelliferous*. This would be a *simple umbel*, because the flowers all spring from the same part of the principal stalk—such as the



No. 349.—SHEEP'S PARSLEY.

cowslip, the wild garlic, &c. No. 349 is a flower called *compound umbel*, because the flowers are first grouped together like a simple umbel, and then have another stalk to join them to the principal stem—such as Sheep's



No. 350.—THE DAISY.

Parsley, &c. And now we come to our well-known little Daisy, sometimes purely white with yellow eye, sometimes crimson-tipped. Its first name was a suitable one, the *Day's*

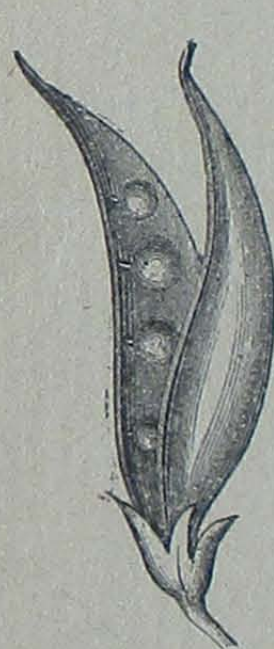


*Eye*, for it opens with the day, and closes its eye as night approaches. The French people call the daisy *marguerite* (from *margarita*, a *pearl*), an example of the admiration won by simple modest beauty.

Nos. 351, 352, 353, and 354.

### SEEDS IN PODS, ETC.

IN many plants the seeds are arranged in pods, a kind of *sheath-like* case (No. 351). In the kitchen-garden and the flower-garden we can find specimens of both green peas (No. 352) and sweet peas, common enough to



No. 352.—PEA POD.



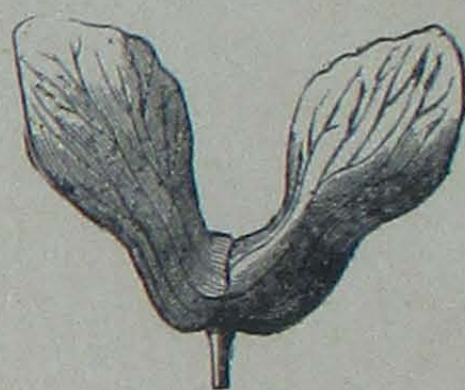
No. 353.—PEA POD.



No. 351.—SEED POD.

our eyes in spring and summer. The seeds are arranged in two rows, fitting into each other alternately, which we can see in No. 353. No. 354 is a *winged* seed-vessel, such as we see on the sycamore, the ash, and the

elm tree. There is generally but one good half to this seed; the other wing seems to have no calling beyond making "the balance true."



No. 354.—WINGED SEED-VESSEL.

Nos. 355 and 356.

### THE BEAN.

IT is easy just to sow a Bean, leave it to itself, and afterwards admire the full-grown plant; but a little thought will make us wish to know something of that hidden growth that must go on in the dark earth. In our pictures we first see the bean ready to be sown—*a* shows our bean cut in half with the first sign of growth, the two



No. 356.—BEAN GROWTH.



No. 355.—BEAN

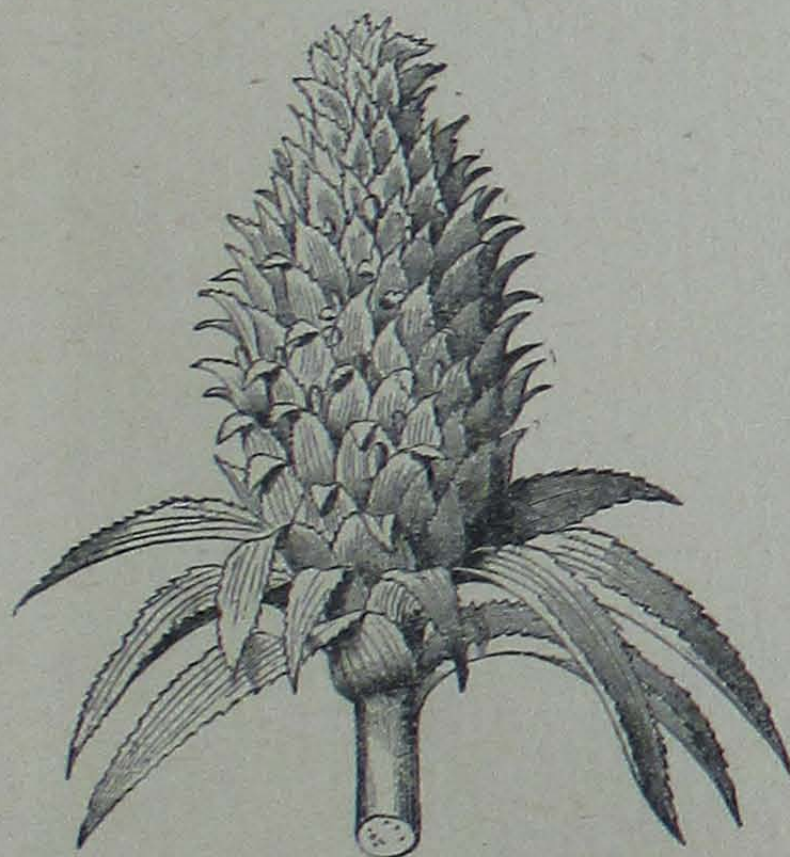


tiny shoots, better shown in the picture marked *c* and *d*, where they seem pulled off the bean itself. This tiny new bean plant rapidly grows as far as we see in No. 356—*a* the first leaf; *b* the second leaf; *c* the third leaf; *d* the old bean still helping to nourish the young plant; *e* the root; and *f* the stalk, destined to grow up till it is clothed with leaves, flowers, and lastly pods of beans, all ready for our use as food, or to be sown in the earth.

No. 357.

### THE PINE-APPLE.

THE Pine-apple is rather a change in size, look, and taste, to the bean.



No. 357.—THE PINE-APPLE.

We grow it in hot-houses made on purpose, and very handsome it looks with its crown of leaves and beautifully formed fruit, the perfume of which does not fail to carry out the pleasing impression made by its appearance.

No. 358.

### SWEET-SCENTED GRASS.

QUANTITIES of this sweet-scented grass grow in fields and pastures, and, when drying, give out a pleasant scent



No. 358.—GRASS.



like newly-mown hay. It grows to about a foot in height, and has short leaves. The bunch of flowers turns yellow when old—*a* shows a part of the flowers magnified.

There are a great many other kinds of flowering grasses, but we can describe only one more. Grasses make a beautiful collection, if gathered just before the seed is fully ripe, well pressed in blotting-paper, and then fastened down to sheets of thick paper with small narrow strips of paper and gum. Any of our little readers who would like to become a botanist when he or she is older, would do well to begin collecting these grasses at once, and preserving them as we have described.

No. 359.

### THE SAFFRON CROCUS.

WE are much more used to the Crocus as a spring visitor than as a herald of winter's approach. Although a somewhat formal and prim-looking flower, it is always admired. Its bright colours are especially welcome when so little colour is to be seen. The Saffron Crocus is much cultivated in Essex, for the sake of the saffron—a yellow powder at the very end of the pistil, which is divided into three narrow pieces. The flower itself is purple.



No. 359.—THE CROCUS.

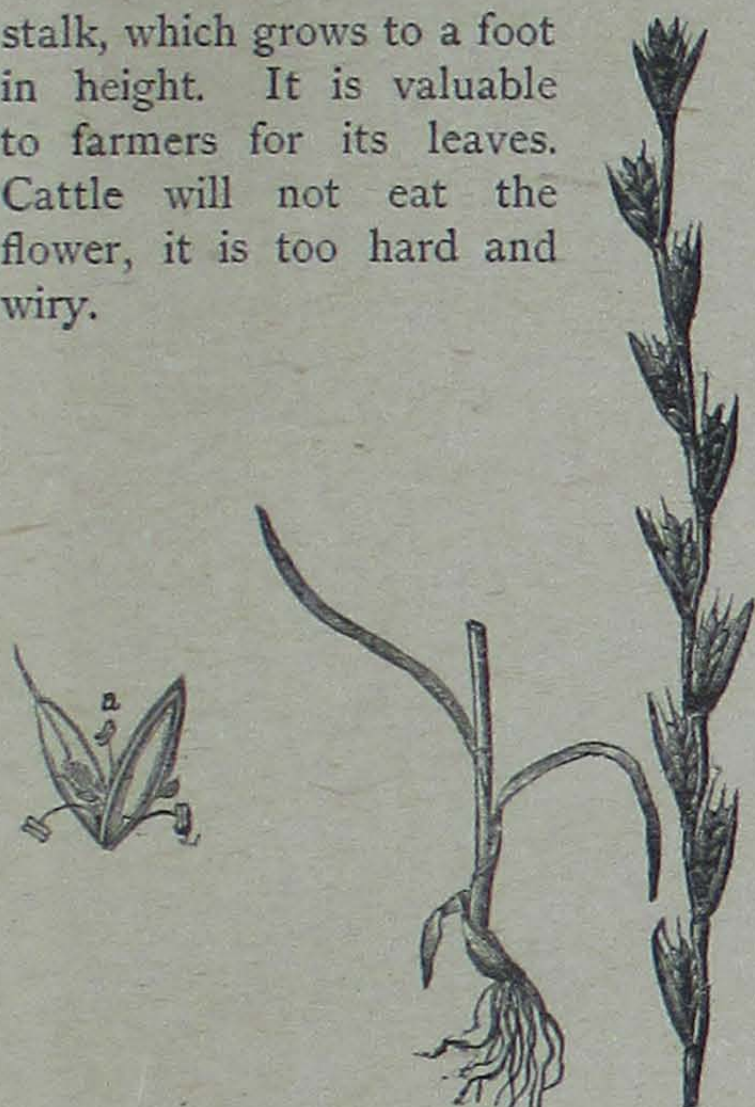
No. 360.

### RYE GRASS.

THIS Grass is a favourite with country children; they use it as a magic wand to tell them whether their future home is to be a "large house," a "barn," or a "pigstye;" pulling off the alternate blossoms till they hear the fate told by the innocent grass, the last flower to fall being the one to decide the case. The flowers are in formal rows on either side of the



stalk, which grows to a foot in height. It is valuable to farmers for its leaves. Cattle will not eat the flower, it is too hard and wiry.



No. 360.—Rye Grass.

No. 361.

### SWEET WOODRUFF.

ALTHOUGH quite a small plant, there is a great deal to admire in the Sweet Woodruff. It grows in woods and shady places, and in Germany it is called the "May drinke," as it is used to flavour wines that are made in that month. When dried the Woodruff is very sweet indeed, and is said to preserve clothes from the moth. The

flowers are small and purely white, and cluster together at the top of the stalk: *a* is a single flower; *b* the flower opened out flat; *c* a stamen. The leaves grow very prettily, grouped round the stalk in regular order, and are long and pointed in shape.



No. 361.—SWEET WOODRUFF.

No. 362.

### DEADLY NIGHTSHADE.

THIS is one of our most poisonous plants. The flowers are bell-shaped and drooping, of a dull purple colour,



with short stalks. The leaves are large and undivided, with smooth edges. Unfortunately, Deadly Nightshade often grows in the hedges near towns and villages, and the shining black berries, rather like small black



No. 362.—THE NIGHTSHADE.

cherries, tempt children to eat them. The poison is very deadly, and fatal consequences would follow if immediate help was not given. Drinking a quantity of vinegar is said to be a good remedy.

No. 363.

## HENBANE.

ANOTHER poisonous plant, with a very disagreeable smell. It grows in chalky soils, and, like the Nightshade, is often to be seen near towns and villages. In spite of its poisonous



No. 363.—THE HENBANE.

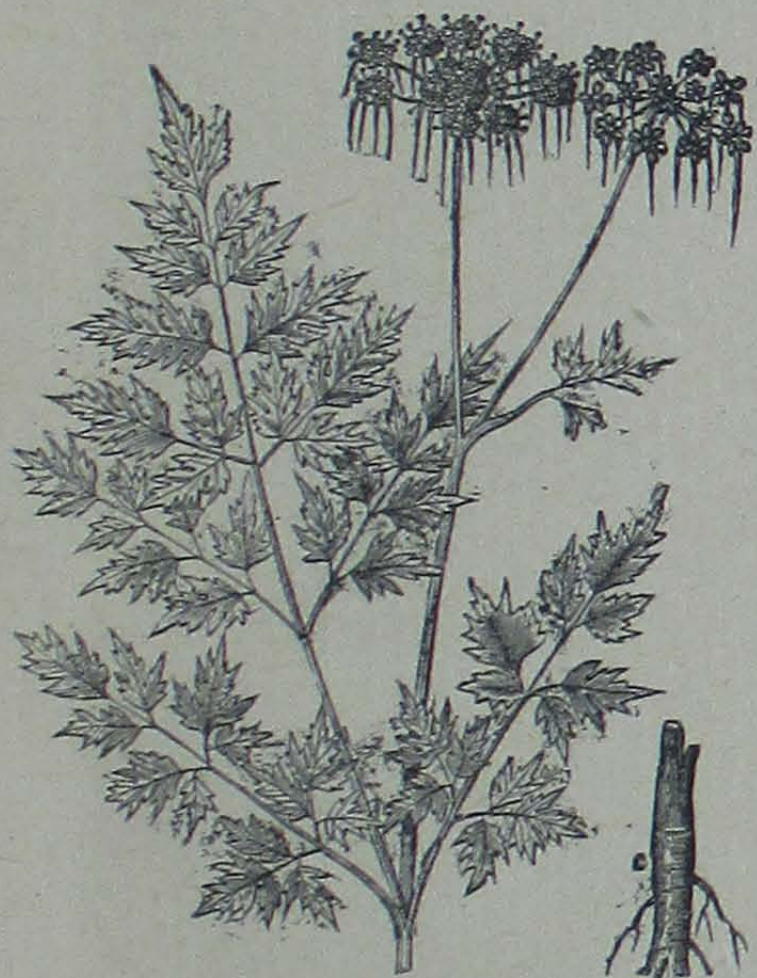
nature, this plant is valuable as a narcotic—that is, soothing—medicine, and is sometimes smoked by country people to cure toothache.



No. 364.

## LESSER HEMLOCK.

THIS plant is also called the Common Fool's Parsley—not a complimentary title. It grows in quantities in fields and gardens, and is not welcomed in the latter place. The leaves are very much divided, and branch out some-



No. 364.—THE LESSER HEMLOCK.

thing like the common brake fern, and also not unlike garden parsley. The flowers are very small, white, and in separate clusters on long stalks. This plant is poisonous, and has an unpleasant smell, a sort of natural

L

danger-signal, like the Henbane ; *c* is the root.

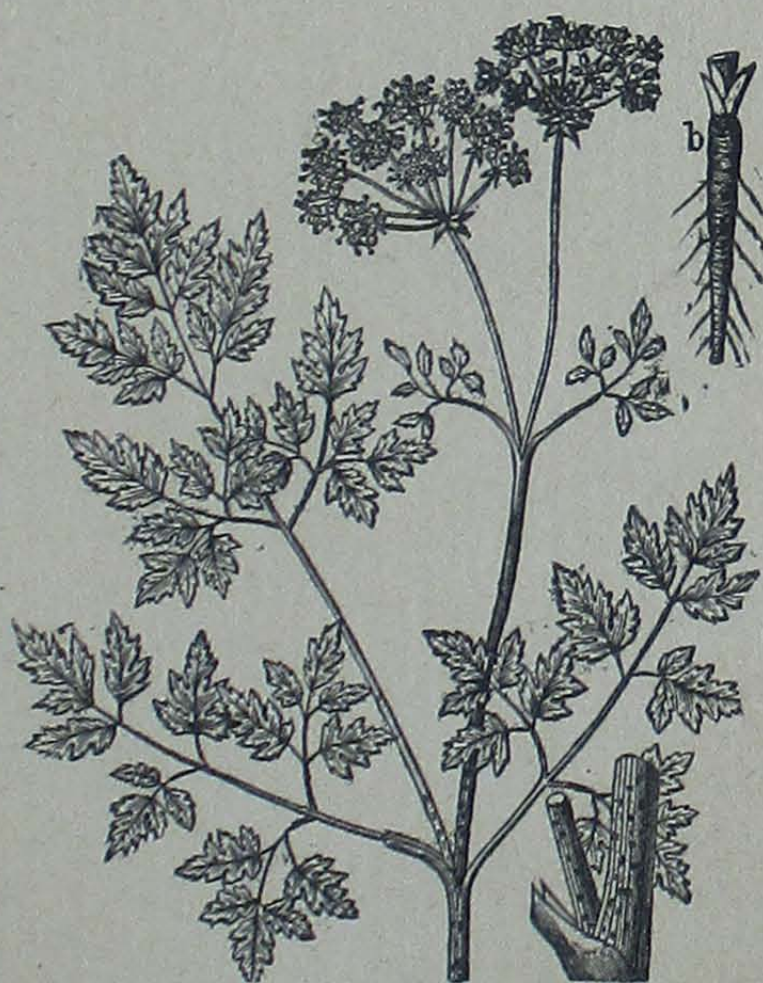
No. 365.

## HEMLOCK.

AGAIN we have to describe a poisonous plant, the Common Hemlock. It will very probably recall to our minds a little rhyme in which are these lines,

"Do not chew the *hemlock* rank,  
Growing on the weedy bank ;"

a piece of advice it is just as well for all cows to follow, as well as the par-



No. 365.—THE HEMLOCK.



ticular cow addressed in the verses from which we quote. The stem is spotted, which we can see in the picture *a*; the root, *b*, is rather like a carrot. The leaves are large, and when bruised have an unpleasant smell. The plant grows from two to four feet high.

No. 366.

### TURK'S-CAP LILY.

FROM the fields to the garden do we again go; for this lily is no wild flower of ours, such as the small



No. 366.—THE TURK'S-CAP LILY.

white flower, the Lily of the Valley, which is our next picture. There are several varieties of Lilies with flowers of this shape, the most remarkable being the scarlet Turk's-cap Lily and the yellow Turk's-cap Lily, both of which have long been common in English gardens. This handsome plant blooms in July. It is about three feet high, and has long narrow leaves set at intervals on the stalk—*a* is the petal of the flower; *b* the pistil; and *c* the stamens.

No. 367.

### LILY OF THE VALLEY.

WE have already seen the blossom of this sweet little flower. Here we have the whole plant and an opened flower—*a* showing the pointed petals and the little stamens; *b* is the pistil. The leaves of this Lily are large, smooth, and beautifully green; they are evidently made to shelter the delicate blossom from the cold winds that visit us in the spring, and even penetrate to the woods and coppices favoured by this flower. It grows rather close to the ground, and is carefully cultivated in our gardens, where it finds favour with all. The tall white Lily of our gardens is another great favourite.





No. 367.—THE LILY OF THE VALLEY.

No. 368.

# ROSE-BAG WILLOW HERB.

THE long spike of pink flowers peculiar to this plant is very beautiful; the flowers are large, and the petals, which are rather irregular in shape, are placed at the top of the pod, which shows itself before the blossom fades and falls. The leaves are long and narrow, and grow amongst the flowers as well as on the rest of the stalk. This plant is

not common to all England. It flowers in July, and grows to a height of from four to six feet.



No. 368.—THE ROSE-BAG WILLOW HERB.

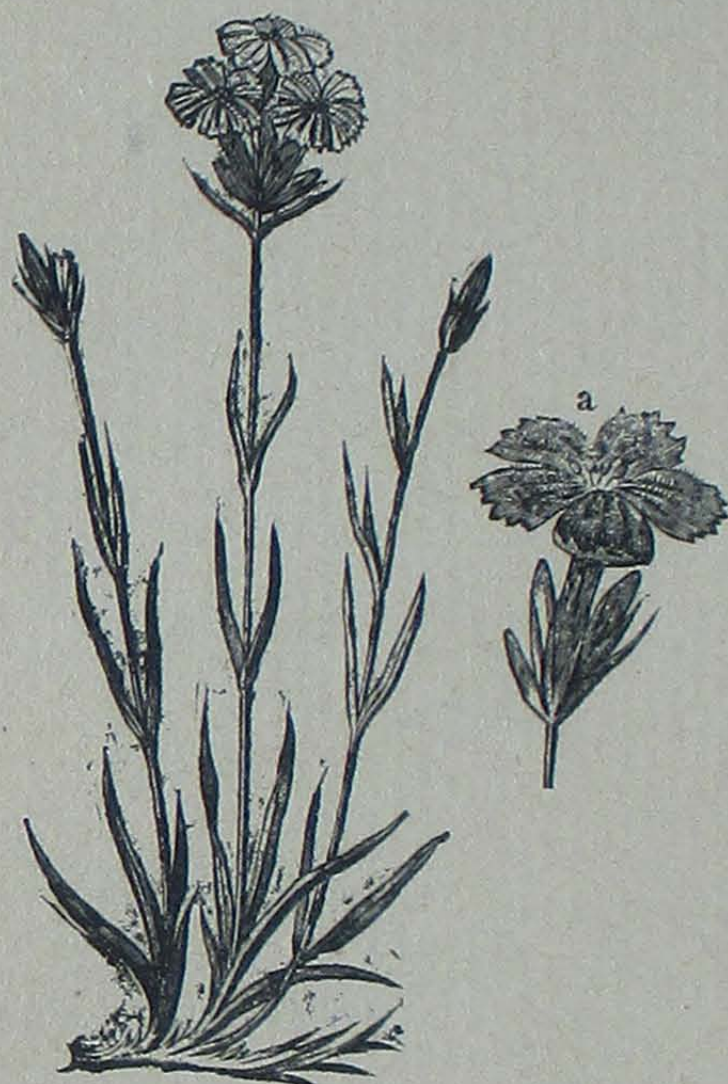
No. 369.

# SMALL PINK.

THE wild variety of this flower is not very common; it is called the Deptford Pink, and is only found in waste places. A small deep pink flower, looking very like our picture, is cultivated in gardens, and is of a



very fine colour, which makes up for its small size—*a* shows a separate bloom.



No. 369.—THE SMALL PINK.

No. 370.

### SPIKED PURPLE LOOSE-STRIFE.

THIS is another water plant, that is, it is always found amongst the reeds and rushes found in marshy lands, above which plants it rears its spike of beautiful purple flowers, for it grows three feet high. It flourishes best in Surrey. The leaves grow

opposite each other, and are long and rounded where they join the stalk—*a* is a separate flower, and *b* the centre of the flower.



No. 370.—THE SPIKED PURPLE LOOSE-STRIFE.

No. 371.

### HAWTHORN.

WHITE-THORN and May are the two other names given this flower, and its showers of white blossoms are well known to us, and amongst the most welcome of the flowers of May, although May-day sometimes comes



before its pretty namesake appears—*a* shows a bud ; *b* a single blossom ; and *c* the seed-vessel.



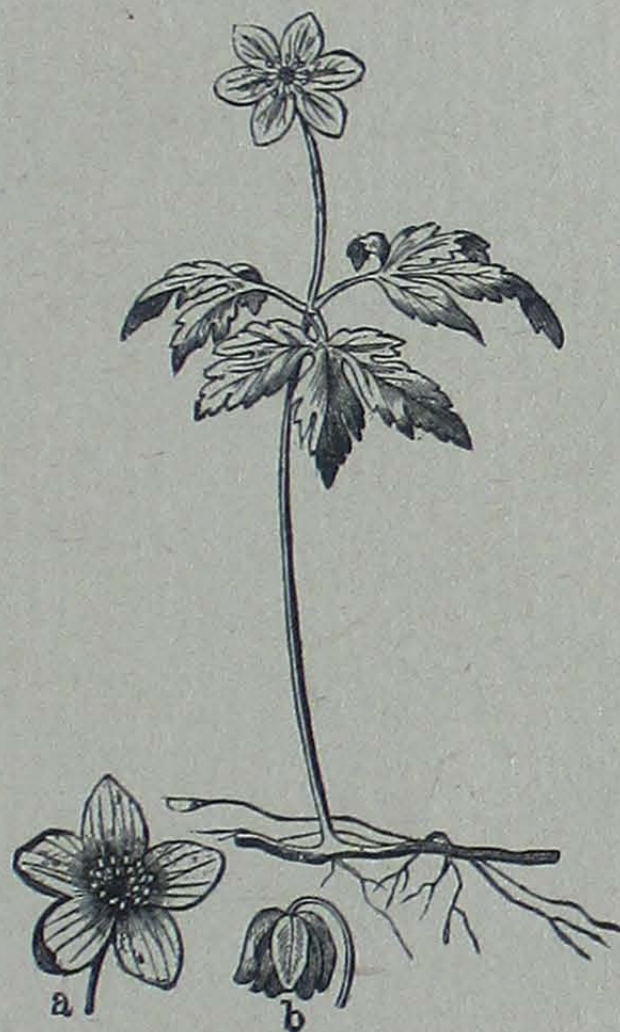
No. 371.—THE HAWTHORN.

No. 372.

### WOOD ANEMONE.

MOST spring flowers have soft delicate colours, as if their very hues were to show how perfectly Nature is ordered from the highest form to the lowest. The Wood Anemone, with its single delicate white blossom veined with purple on the outside, its slender stalk

and pretty divided leaves, is a very good example of a spring flower. It is never seen in Essex ; but is common in the woods and coppices of the other counties of England, where it grows in quantities. April is its particular month—*a* shows a single blossom, and *b* a blossom drooped in the way usual to the flower.



No. 372.—THE WOOD ANEMONE.

No. 373.

### RED DEAD NETTLE.

STINGING NETTLES differ from others by being without the attraction



of the blossom shown in our picture. There is a yellow flowering Nettle and a white one, besides the red Nettle, all three of which are called *dead* Nettles, from being without any sting. The



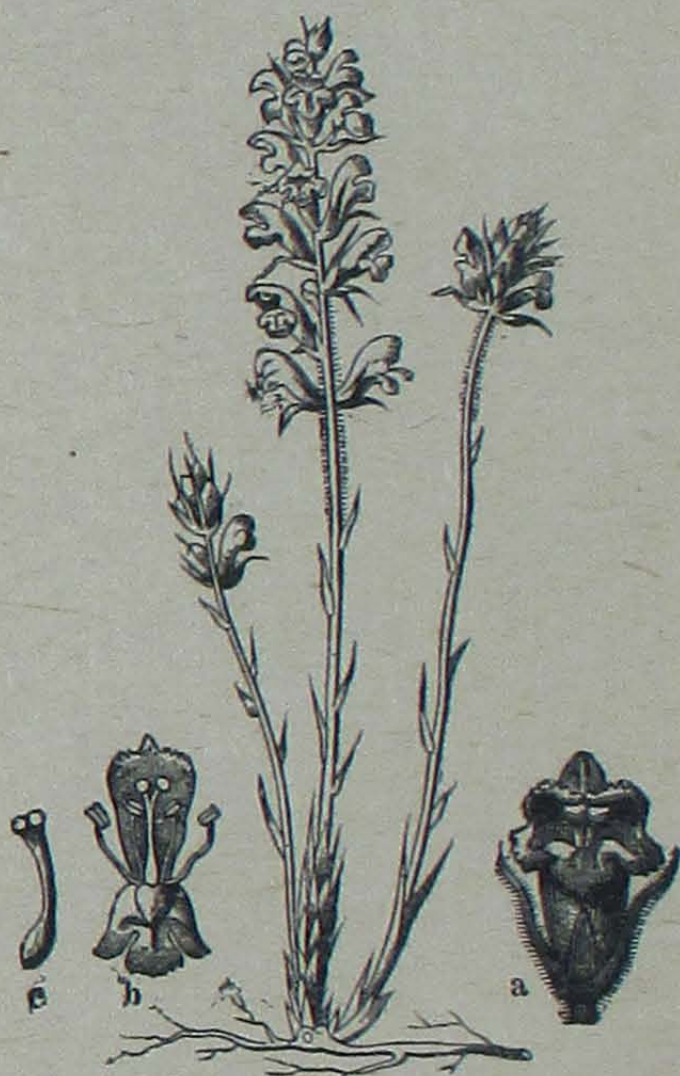
No. 373.—THE RED DEAD NETTLE

upper leaves of the Red Dead Nettle are tinged with purple, and covered and hairy, like the leaves. Plants of the nettle kind are very common, and are found growing wild at almost all times in the year.

No. 374.

## GREATER BROOM-RAPE.

THIS plant, which grows on the roots of broom and furze plants, and is a purplish-brown all over, cannot be



No. 374.—THE GREATER BROOM-RAPE.

said to have actual leaves—mere little leaflets along the stalk. Near the root these leaflets are like scales. The flower is peculiar—*a* shows it enlarged, as most of the single blossoms are in this book; *b* the inside of the blossom opened out; *c* the pistil.



No. 375.

## A KIND OF VETCH.

OUR garden sweet peas and everlasting peas are very much like the wild vetches, particularly in two points—the shape of the flowers and the pod-shaped seed-vessel. Some



No. 375.—THE VETCH.

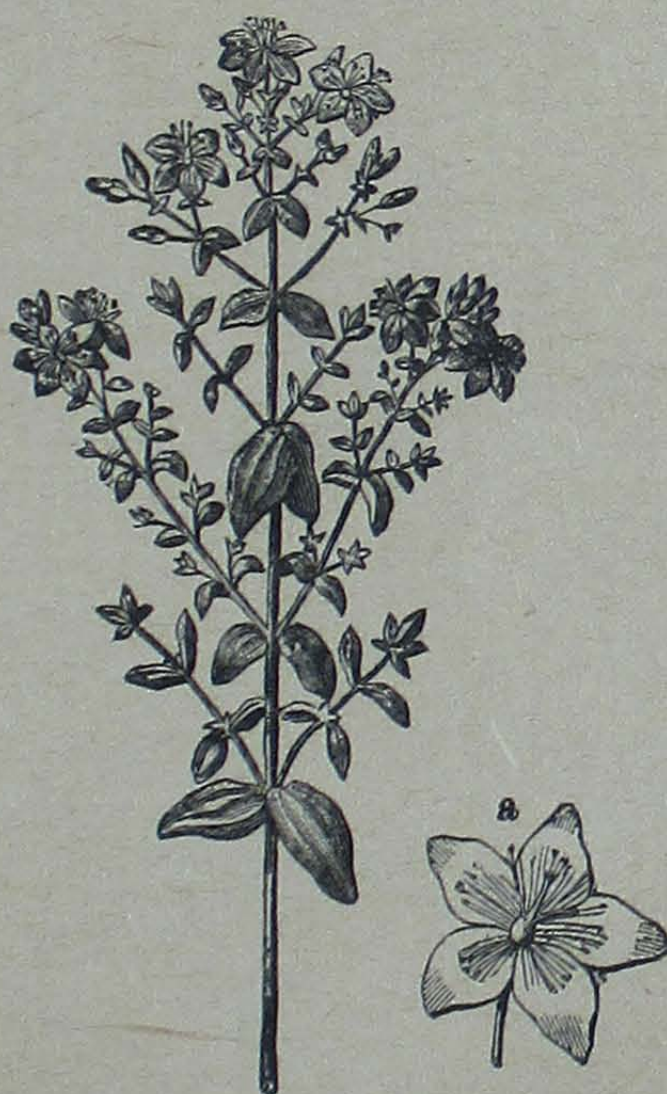
kinds, such as the one now before us, only grow low on the ground, whilst others are regular climbers; at least, intertwine with plants in the hedges and on the banks of our country fields

and lanes — *a* points out a single blossom. From its being thus shown separately and also magnified, we can see how much it is like the Sweet Pea of the garden.

No. 376.

## ST. JOHN'S-WORT.

THERE are five other kinds of St. John's-wort, all having bright yellow flowers. The cultivated variety is very handsome, and grows so freely that,



No. 376.—THE ST. JOHN'S-WORT.



when once it has taken possession of ground that suits it, it is anything but easy to persuade it to change its dwelling. The small wild St. John's-wort in our picture is peculiar for having a two-edged stem, and little black dots on the flowers, and sometimes the leaves as well. It blossoms in July, and is about two feet high. It grows up erect and regularly, as if proud to show its pretty yellow flowers, set like wandering stars at the top and sides of the plant, always at the end of the stalks—*a* shows a single blossom with its many stamens. The leaves are in pairs, and not large.

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No. 377.

### DANDELION.

BIRDS and bees have to thank this flower for seeds and honey, and most children have tried blowing off the pretty feathery crown of seeds (*a*) to find out "What's o'clock:" *e* is a single seed magnified; *b* the calyx, with but one seed left; and *c* the calyx with only a single flower left; *d* shows one of these little flowers that help to make the whole blossom complete.



No. 377.—THE DANDELION.

No. 378.

### CORN BLUE-BOTTLE.

THE ripening corn with its soft yellow colour contrasts beautifully with the brilliant blue of this pretty flower that appears amongst the many ears. The leaves all grow below the flowers, whilst the blossom itself is like a ray of larger florets (*a*), bright blue, set round a centre of lesser florets of a dark purple colour. Knapweed is another name for the Corn Blue-bottle.





No. 378.—THE CORN BLUE-BOTTLE.

No. 379.

## COMMON DAISY.

WE have already had a single blossom of the "Day's Eye," like the one marked *a*; *b* shows the same blossom with nearly all the white petals picked off, leaving the yellow centre. When bad weather comes on, these white petals close over the golden "eye" like a tent, and so protect it from all harm. From March to No-

vember Daisies are common indeed, and we may be said never to be without this little faithful flower. In our picture we have a whole Daisy plant rooted up, showing its thick cluster of rounded leaves, that never grow high above the ground.



No. 379.—THE DAISY.

No. 380.

## COMMON LARCH.

THE Common Larch, with its light foliage of vivid green is a great ornament to our plantations. In some of the Duke of Athol's plantations in Perthshire it grows to one hundred feet. The wood is heavy, and hard to work. From it we get turpentine



and tannin, which is used to tan leather and other things—*a* is a little bough picked off the tree, with the pretty deep pink blossoms, like little cones, upon it; and *b* is a bough with the **cones** fully formed.



No. 380.—THE LARCH.

No. 381.

### SCOTCH FIR.

THIS tree is very different to the Larch, although the wood also produces turpentine and tannin, besides tar and pitch. The Scotch Fir looks

best standing alone, with its large red trunk and thick foliage reared proudly up towards the sky, whilst the Larch is best seen in groups, as its bright green foliage is its chief attraction. The wood of the Scotch Fir is very



No. 381.—SCOTCH FIR.

useful, and is called red and yellow deal—*a* is a cone fully ripe, and *b* a cone as it opens to let out the seeds. Only branches of the trees are given, because these pages are not large enough for a drawing of the whole tree as it grows.



No. 382.

## COMMON BEECH.

THE Common Beech is a large tree of very beautiful growth. The leaves are of the loveliest fresh green when they first appear, and deepen to a richer shade. The bark is smooth, and the branches spreading. The nuts are regularly sheathed in a very



No. 382.—THE BEECH.

prickly calyx, and are nice to eat, although not at all large. This tree has use as well as ornament to recommend it, and can bear comparison with the Oak for the service it renders to us—*a* shows the blossom, *b* the calyx, and *c* the beech-nut in its prickly sheath.

No. 383.

COMMON FERN, OR  
BRAKE.

FERNS are amongst the chief beauties of our country. The Common Brake (of which only a small part is shown) covers the heaths and woods and forests all over England, and sometimes grows ten or twelve feet high,



No. 383.—THE BRAKE.



whilst at other times it keeps to a height of three feet. This fern branches out widely from the central stalk—*a* is part of one of the fronds, a back view, showing how the seeds, called *sori*, are arranged like a border at the edge of the leaflets; *b* is the sori magnified, and *c* a section of the lower part of the stalk. Ferns die down in the autumn, and spring up fresh in the spring-time.

No. 384.

### CREEPING CACTUS.

ALL plants of this kind are so wonderfully made that they are able to bear the heat and dryness of very hot climates without showing any evil



No. 384.—THE CREEPING CACTUS.

effects. They draw in the heavy dews that fall at night—literally drink them in—and then, when the heat of the day comes on, this moisture supports the plant and gives it health and strength. In most plants great heat draws out this life-giving moisture, and so the plant droops, and shows the effect the heat has upon it; but cacti are not so affected, and consequently are full of sap when other unhappy plants are withering and dying. The Creeping Cactus in our picture is very common in our greenhouses. It is difficult to distinguish the leaf-like branch (*a*) from the stalk. The flowers grow out in the same unexpected fashion, and the whole plant has rather the appearance of being joined together in independent pieces than the look of natural growth.

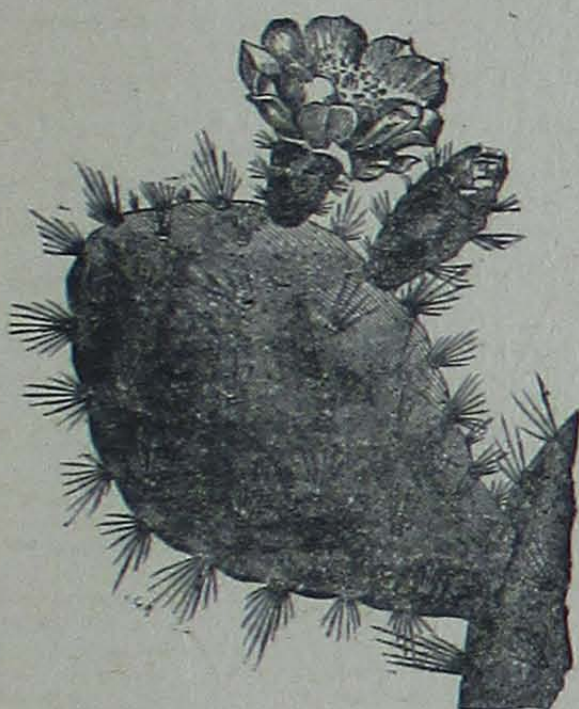
No. 385.

### CACTUS OPUNTIA.

THIS Cactus looks, if anything, still more curious than its neighbour. The flowers are brilliant, like those of most cacti, beautiful scarlet and bright pink being the favourite colours. The flowers of the Cactus Opuntia have no stalks, and grow from the leaf or stalk in apparently careless style. The whole plant is set with little bunches of prickles, and it does not



do to try and gather a cactus blossom without being very careful, for these prickles are very apt to get into peoples' fingers, when they will not be forgotten in a hurry.



No. 385.—THE CACTUS OPUNTIA.

No. 386.

### TREE FERN.

WE must still keep in hot climes, for it is only in the very tropics that ferns will grow into trees, and there they rise from the ground like palms. We always admire ferns when they are but small, and are like bunches of the most elegantly beautiful leaves; indeed, ferns need no flowers, their beauty of form and graceful growth leaving nothing wanting. The fronds, or leaves, of the Tree Fern are some-

times smoothly edged and sometimes deeply cut, and always of a most beautiful and graceful shape.



No. 386.—THE TREE FERN.

No. 387.

### AZALEA INDICA CRISPI-FLORA.

THE more hardy Azaleas come from America. These have a smaller blossom than those of the greenhouse, and are very fragrant, particularly the yellow one. The others are remarkable for their beautifully-tinted blossoms, varying from delicate shell-like pink and white to the richest orange colour. The delicate



Azaleas come from India. They grow from cuttings. America gives us a great many of our most striking garden beauties, such as Magnolias and Rhododendrons, to which last flower the Azalea is nearly related.



No. 387.—THE AZALEA.

No. 388.

### RICHARDIA AFRICANA.

ANOTHER sweet and beautiful flower, with a large blossom of the purest creamy white, curiously shaped something like a partly folded leaf. The centre of the flower is yellow and

almost hidden in the protecting fold of the smooth white blossom. The leaves are large and handsome, and the whole plant is of truly beautiful growth.



No. 388.—THE RICHARDIA AFRICANA.

No. 389.

### CAMELLIA PELAGIA.

THIS handsome flowering shrub grows freely in the woods and gardens of China and Japan, and we are accustomed to see it flourishing happily in our greenhouses just at the time of the year when we most deeply prize every lingering flower. Camellias



have single and double blossoms—the single having few petals, spread out like the wild rose, and showing the yellow centre. The double blossom is full of petals, such as the *Camellia Pelagia* in our picture. Bright red, delicate pink, and the most perfect white, are the chief hues



No. 389.—THE CAMELLIA PELAGIA.

of this flower. The leaves are rather large and very smooth and shiny, like the laurel leaf, although of shorter shape and with cut-out edges. Camellias are not difficult to grow, if properly cared for.

No. 390.

## PELARGONIUM, A FANCY GERANIUM.

MOST fancy Geraniums are fanciful indeed in colour, and vary from white and pink to purplish and scarlet, the whole blossom being generally of different tints; thus, the two uppermost petals might be a deep purplish



No. 390.—THE PELARGONIUM.

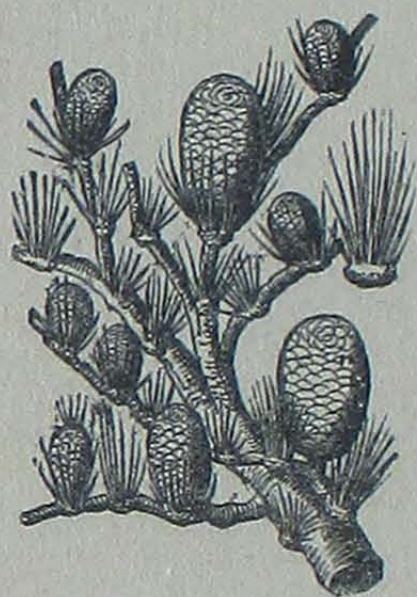
colour, and the three lower ones pale pink, all beautifully veined and streaked. The flowers cluster together at the top of the stalk, making a regular natural bouquet, and the leaves are widely spread.



No. 391.

## CEDAR OF LEBANON

THE most majestic of all trees is the Cedar of Lebanon. Its foliage looks like velvet at a distance, the colour being a rich dark green, without the bluish tint of the Pine and Fir, or the



No. 391.—THE CEDAR OF LEBANON.

lurid and gloomy hue of the Cypress. If the Cedar grew quickly, it would be the most valuable of forest-trees, for the wood is so durable that it seems proof against time itself.

No. 392.

## BANANA TREE.

TROPICAL climates are the home of the Banana Tree. Its real stem is under the ground, and this stem sends up shoots bearing leaves, flowers, and fruit, which after dying off are replaced by fresh shoots



No. 392.—THE BANANA.































